ence
Library

The OIL AND GAS JOURNAL

JULY 4
1940

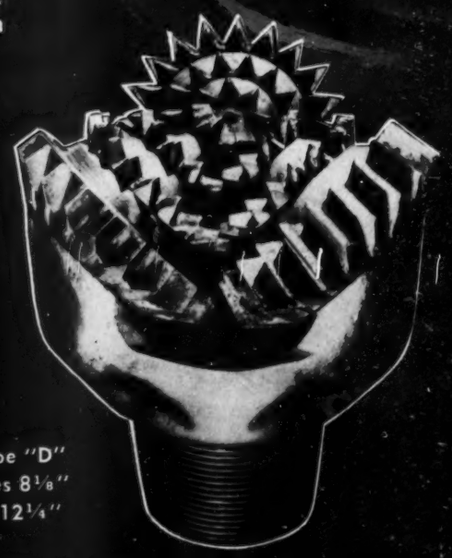
PRICE
0 CENTS

Where TEETH COUNT!

. . . whether in deadly duels by the denizens of the deep—or in biting thru difficult rock formations—IT'S THE TEETH THAT COUNT.

For every range of formations encountered, there is a Hughes "Tailor-Made" Rock Bit especially designed to give you maximum penetration in any formation.

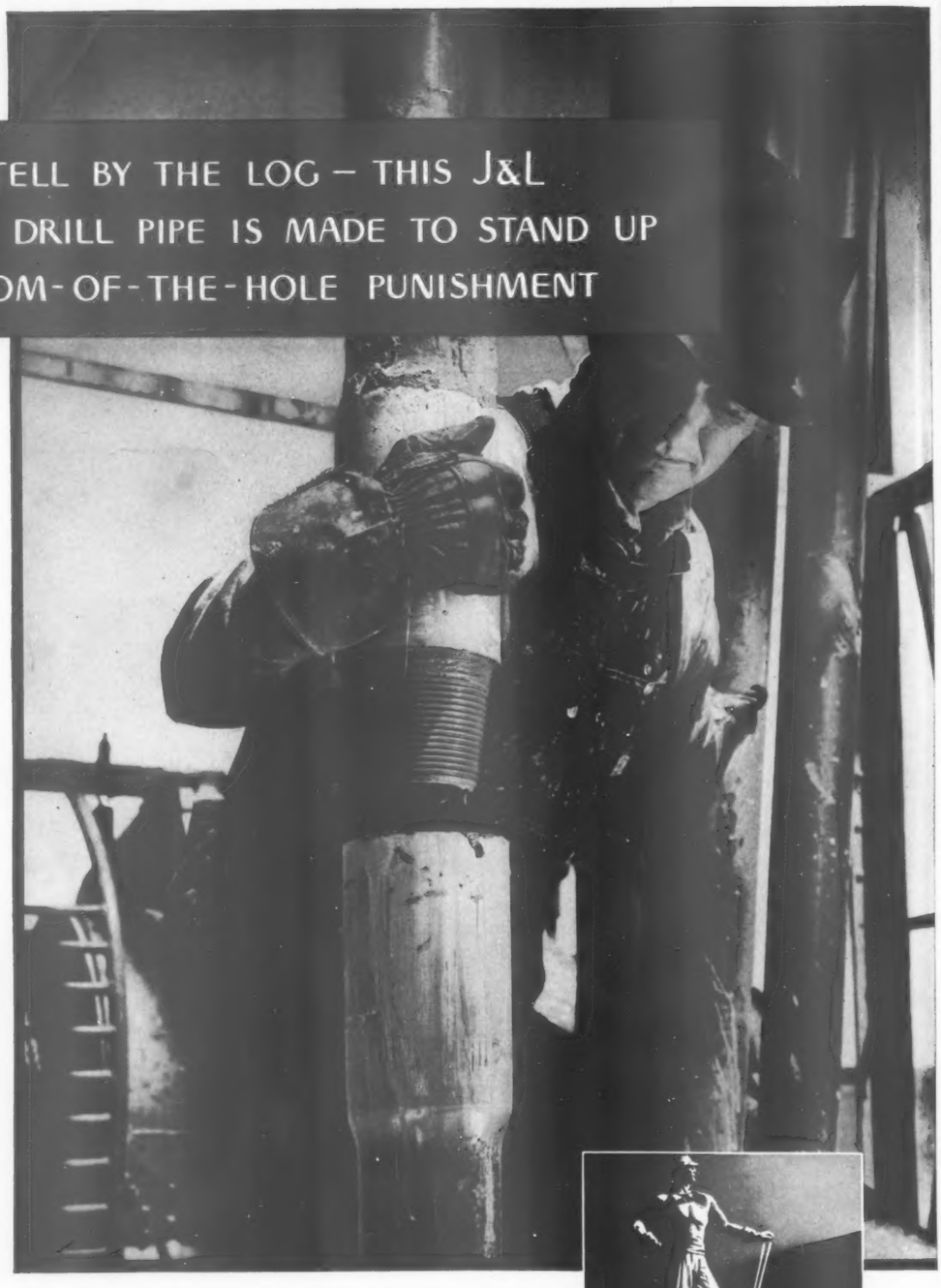
Here is shown a Hughes Type "D" Tricone, better known as the "Lime Special", which is making enviable records for footage and speed in lime rock. Self-cleaning with sturdy teeth, Hughes Type "D" Rock Bits successfully bite thru layers of shale, gypsum, medium hard sand rock or similar formations.



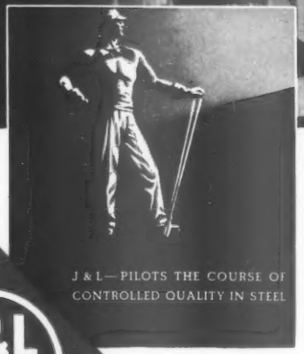
Type "D"
Sizes 8 1/8"
to 12 1/4"

HUGHES TOOL COMPANY HOUSTON TEXAS

YOU CAN TELL BY THE LOG – THIS J&L INTEGRAL-JOINT DRILL PIPE IS MADE TO STAND UP UNDER BOTTOM-OF-THE-HOLE PUNISHMENT



When the roughnecks on your rig add another length to the drill stem — and you figure you're getting down close to pay sands — it's a great feeling to know they'll be stabbing the kelley to a string of drill pipe that's made to "dig at the bottom." That's why drillers like J & L Integral-Joint Drill Pipe. It's surer, for pin and box ends are upset right on the pipe which means there are no threaded connections of tool-joint to drill pipe where twist-offs and wash-outs often occur. J & L Integral-Joint Drill Pipe is made of J & L Controlled Quality Steel. It must prove its ability to do a job for you in the field by passing the rigid J & L 100% inspection in our mill. For your next well use J & L Integral-Joint Drill Pipe. There is a supply store near you that handles it.



J&L PIPE

JONES & LAUGHLIN STEEL CORPORATION
AMERICAN IRON AND STEEL WORKS
PITTSBURGH, PENNSYLVANIA

J & L — PARTNER IN PROGRESS TO AMERICAN INDUSTRY

as,

Science Wahr

The Oil and Gas Journal

PUBLISHED WEEKLY BY THE PETROLEUM PUBLISHING COMPANY AT TULSA, OKLAHOMA

HOME OFFICE, 211 S. CHEYENNE, TULSA
PHONE 3-6291

P. C. LAUINGER, *President* — *Editor*, C. O. WILLSON

LYNN M. NICHOLS, *Managing Editor* — W. V. HOWARD, *Field Operations*

W. T. ZIEGENHAIN, *Refinery Editor* — W. L. NELSON, *Metallurgical Editor*

Associate Editors

DAL DALRYMPLE — T. P. SANDERS
HARRY F. SIMONS — PAUL REED
D. H. STORMONT — H. STANLEY NORMAN

District Editors

Houston, *617 Caroline St.*
NEIL WILLIAMS — F. L. SINGLETON

Fort Worth, *Petroleum Bldg.*
R. MARNE SANFORD

Shreveport, *City Bank Bldg.*
GEORGE WEBER

Los Angeles, *Union Oil Bldg.*
L. P. STOCKMAN

Washington, *Natl. Press Bldg.*
HENRY D. RALPH

Saginaw, *News Bldg.*
O. C. PRESSPRICH

Denver, *State Office Bldg.*
TOLBERT R. INGRAM

New York, *415 Lexington Ave.*
J. P. O'DONNELL

Oil City, *Derrick Bldg.*
A. C. MacINTYRE

Chatham, Ontario, *Box 136*
VICTOR LAURISTON

S. H. ROURKE, *Business Manager*

M. L. DURHAM, *Circulation Manager*

Advertising

E. KLAPPENBACH, *Vice President*

New York, *415 Lexington Ave.*
LLOYD CAIN

Cleveland, *Leader Bldg.*
HOWARD MARKT

Chicago, *105 West Madison*
C. R. FARMER

Tulsa, *211 S. Cheyenne Ave.*
KENNETH J. LANGLEY

Houston, *617 Caroline St.*
WAYNE RIVES

Los Angeles, *1406 S. Grand Ave.*
J. HOWARD TINKHAM

Twickenham (Middlesex) England—*72 Cole Park Road*
A. J. CHAMBERS

Table of Contents

Vol. 39, No. 8 — July 4, 1940

News Developments

Trends ... 5
Rumanian Oil Fields Are in Center of New War Area ... *H. Stanley Norman* 6
Sparks From the News ... 8
Phillips Plans Gas Line From Panhandle to Wisconsin ... *D. H. Stormont* 9
Oil U. S. Ace in Hole, Speaker Tells A.P.I. Members ... *Harry F. Simons* 10
Unfavorable Factors Confront California Oil Industry ... *L. P. Stockman* 11
Novel Barge Unit Designed by Socony-Vacuum Engineers ... *J. P. O'Donnell* 12
Three Journal Veterans Retire From Service ... 13
State Capitals ... 14
Editorial: Problem in Balance ... 15
Willkie's Nomination Hailed as Good Omen for Oil Business ... *Henry D. Ralph* 16
Ickes Rules Title to Disputed Section in California Belongs to U. S. ... 16
Deaths ... 18
Large Losses in Export Markets Are Shown in Special Study ... *Henry D. Ralph* 21
Danger of F.P.C. Jurisdiction by Court Decision ... 21
International ... 22
Programs and Meetings ... 25
Natural-Gasoline and Pipe-Line News ... 26
Natural-Gas News and Refinery Activity ... 27

Engineering—Operating

High-Pressure Recycling Plant Operating at Agua Dulce ... *Harry Simons* 30
Plant Exchanger Transfer Rates ... *W. L. Nelson* 32
Analysis of Some Factors Involved in Chemical Prospecting ... *W. V. Howard* 33
Operating Ideas ... 35
First California Calcining Unit Completed at Wilmington ... *L. P. Stockman* 36
Safety—Handling Drill Pipe Requires Care ... 39
Directional Drilling, Surveying, and Polar Core Orientation ... *G. L. Kothny* 40
Suggested Field Practices—Use of Smaller Oil-Well Pumps ... *T. P. Sanders* 45

Field Operations

Field Operations Summarized ... 47
Illinois, Indiana, Kentucky ... 48
Oklahoma ... *Dal Dalrymple* 49
California ... *L. P. Stockman* 51
Louisiana and Arkansas *George Weber* 52
West and Central Texas and Panhandle ... *R. Marne Sanford* 54
Kansas and Missouri ... *Dal Dalrymple* 55
North and East Texas *R. Marne Sanford* 58
Rocky Mountain Area ... *T. R. Ingram* 59
Michigan ... *Otto C. Pressprich* 61
Eastern Fields ... *Staff Correspondent* 62
Gulf Coast ... *Neil Williams* 63
Among Drilling Contractors ... 64
Southwest Texas ... *F. L. Singleton* 66
Key to Abbreviations ... 67
Wildcats ... 67
Mississippi ... 74
Canada ... 74

Markets and Prices

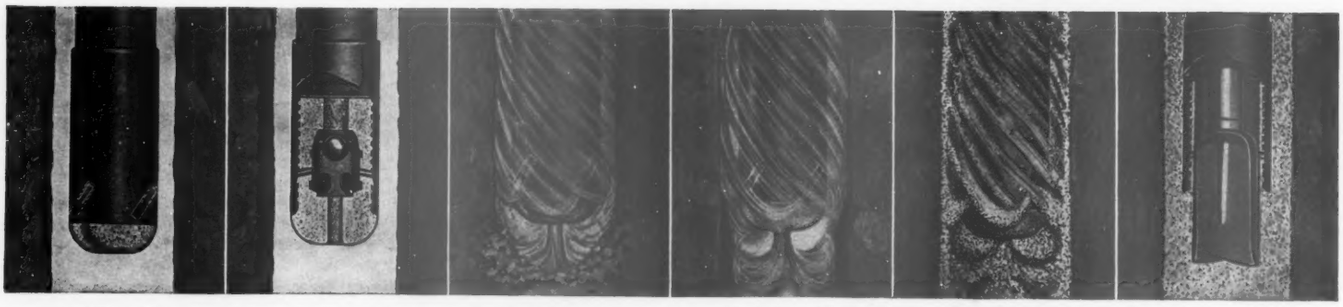
Group 3 Market ... *T. F. Smiley* 78
New York Market ... *H. Stanley Norman* 79
A.P.I. Refinery Report ... 79
Tank-Wagon Market ... 80
Refinery Prices ... 81
Crude-Oil Prices ... 82

Additional Features

Personal Paragraphs ... 78
Equipment News ... 84
Classified Advertising ... 86-87
Advertisers' Index ... 88

SUBSCRIPTIONS: United States, 1 year, $6.00; 6 months, $3.00. Elsewhere, 1 year, $7.00; 6 months, $3.50. SINGLE COPIES: 20 cents each. Back copies, when over a year old, 50 cents. CHANGES OF ADDRESS reaching the Tulsa office of the Journal by Saturday take effect with the following issue.

Copyright, 1940, by The Petroleum Publishing Company



GUIDING | FLOATING | REMOVING BRIDGES | WASHING FORMATION | BETTER CEMENTING | DRILLABILITY

6 RESULTS

YOU CAN BE SURE OF WITH A

BAKER CEMENT
WASH-DOWN WHIRLER
FLOAT SHOE

★ **GUIDING** is efficiently done, due to the rounded nose of the concrete guide which leads the casing past side wall irregularities.

★ **FLOATING** is safely performed due to the efficient Baker BALL-TYPE Back-Pressure Valve which provides a positive, leak-proof seal against either high or low pressure.

★ **REMOVING BRIDGES** and **WASHING DOWN** is an outstanding feature of Baker Cement Wash-Down Whirler Shoes. Circulation fluid passes out of the shoe through a number of baffled side ports, (cut in the wall of the shoe at a downward angle), as well as through a central restricted passage. The resulting downward jetting action washes away the sides and center of the bridge and the formation is readily circulated up the hole as it is removed. As the bridge is disintegrated and washed away, the pipe is lowered through a free hole without danger of being stuck.

★ **WASHING FORMATION** at and above the cementing point, properly preparing the wall of the hole to receive the cement slurry, is another important result. While there is sufficient inclination of the hydraulicking stream to produce a whirling action, it is not forced directly against the wall of the hole, thus avoiding cavings being created.

★ **BETTER CEMENTING** is accomplished by the definite downward as well as upward whirling action imparted to the slurry. As illustrated, this whirling action results in a more nearly complete encasement of the pipe with a uniform body of cement with the hazard of channeling reduced to a minimum.

★ **DRILLABILITY** is always assured as the internal construction of Baker Cement Guiding, Floating, Cementing Equipment units consists only of Baker-Formula Concrete and a small amount of Bakelite which are quickly and easily drilled up into small harmless fragments and circulated out of the hole.

Baker Cement Wash-Down Whirler Float Shoe

BAKER OIL TOOLS, INC.

MAIN OFFICE AND FACTORY: 6000 So. Boyle Ave.
P. O. Box 127, Vernon Station, Los Angeles, California
CENTRAL DIVISION OFFICE AND FACTORY: 6023 Navigation Blvd.
P. O. Box 3048, Houston, Texas
EXPORT SALES OFFICE: 19 Rector Street, New York, N. Y.

FOR COMPLETE DETAILS SEE THE BAKER SECTION IN THE 1940 COMPOSITE CATALOG

Trends

Crude Production Drops to Lowest Level in Months

THE decline in Texas crude-oil production of 219,204 bbl. daily last week, which brought a similar decrease for the entire country, was a highly encouraging development, pointing to improved market conditions over the latter part of the year, provided the same level of production is maintained. The principal weakness in crude oil and refinery products over the past few weeks has centered in Texas. Crude-oil production in that state was higher than the demand, creating a situation which quickly became critical when the export movement of crude oil and gasoline from the gulf dropped sharply, starting in May.

CRUDE PRODUCTION *3,364,087 bbl. daily average—down 211,370 bbl. One year ago 3,460,285 bbl.*

CRUDE STOCKS *260,891,000 bbl. as of June 22—up 1,091,000 bbl. One year ago 272,297,000 bbl.*

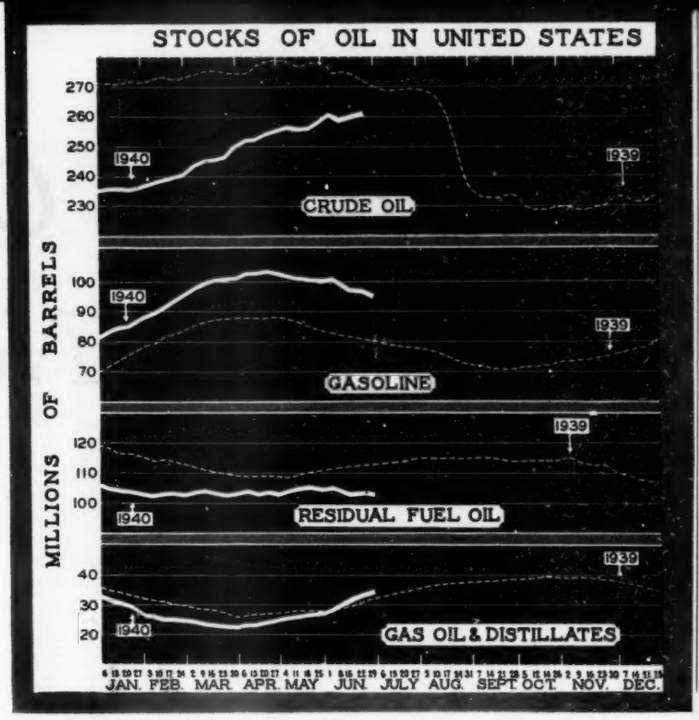
GASOLINE STOCKS *95,142,000 bbl. as of June 29—down 2,134,000 bbl. One year ago 80,549,000 bbl.*

RESIDUAL FUEL-OIL STOCKS *104,486,000 bbl. as of June 29—down 197,000 bbl. One year ago 112,521,000 bbl.*

GAS OIL AND DISTILLATES *33,590,000 bbl. as of June 29—up 839,000 bbl. One year ago 30,606,000 bbl.*

REFINERY RUNS *3,625,000 bbl. daily week ended June 29—down 65,000 bbl. One year ago 3,480,000 bbl.*

The canceling of shipments to France and the Low Countries due to the German invasion left several Texas refineries and pipe-line operators with only a small part of their former outlets. They have not been able to get adequate relief in domestic markets, which have been oversupplied with crude oil and gasoline from other sources. This confused situation necessitated the curtailment program, which was made effective last week in Texas. There are complaints that the application of the reductions in allowables has not been fair to some areas and it is not certain that the proration program as inaugurated July 1 will not be changed later in the month. If continued it should serve to improve the outstanding weak spots in the coastal markets, including the Atlantic seaboard.



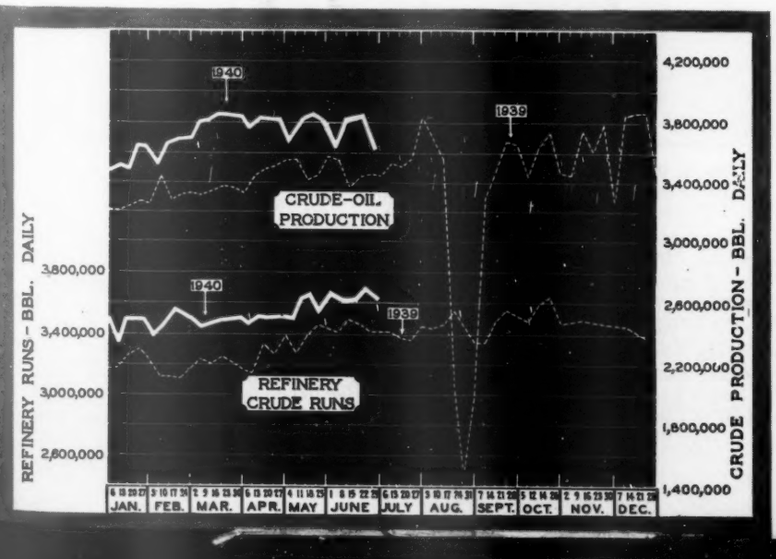
California is another coastal area which is having its troubles. Some domestic and export markets have been lost and production has been too high. The organizations acting voluntarily, which in the past have aided in the control of both crude-oil and refinery output, are not able to function because of the attitude of the Government.

The closing in on Rumania's petroleum supplies featured oil developments outside this country. Some observers feel that the Soviets' immediate objective is the control of the Rumanian oil resources. Because this plan, if successful, would cut off Germany from its only important oil supplies, it is predicted that the active war front will extend shortly to that part of the Balkans. It is pointed out that the war has spread so that all of the oil supplies of the Old World are now involved with the exception of the Far East. With the exception of fuel oils there are no indications at this time of increased export business from this country during July.

Domestic refinery markets at the start of a new month are fairly steady. While excess gasoline is being offered at several points, prices have declined to the point where sellers are refusing to give additional concessions. Residual fuel oils are strong with heavy industrial demands.

DAILY AVERAGE PRODUCTION FOR WEEK

	June 29, 1940	Bur. Mines June est. of demand	June state allowables	June 22, 1940
Oklahoma City	102,150			102,300
Seminole fields	38,150			38,250
Remainder of state	276,475			278,775
Total Oklahoma	416,775	408,600	408,600	419,325
East Texas	298,297			397,000
West Texas	206,398			239,248
North Central Texas	124,296			134,840
Texas Panhandle	61,247			66,255
East Central Texas	72,597			82,391
Gulf Coast Texas	325,448			375,400
Southwest Texas	92,200			104,553
Total Texas	1,180,483	1,344,600	1,335,530	1,399,687
North Louisiana	68,205			68,995
Gulf Coast Louisiana	219,550			222,800
Total Louisiana	287,755	274,700	280,166	291,695
California	597,250	593,700	592,000	607,650
Kansas	183,100	159,000	178,000	178,350
Arkansas	72,350	66,700	70,517	72,450
Mississippi	9,650	7,000		11,605
Eastern fields	106,750	106,400		106,900
Illinois	518,224	395,600		502,177
Michigan	56,420	62,000		55,878
New Mexico	107,340	106,700	107,000	107,300
Rocky Mountain area	97,990	95,300		92,350
Total United States	3,634,087	3,620,300		3,845,457


REFINERY RUNS - BBL. DAILY
CRUDE PRODUCTION - BBL. DAILY
CRUDE-OIL PRODUCTION
REFINERY CRUDE RUNS
1940
1939
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

Rumanian Oil Fields Are in Center of New War Area

By H. STANLEY NORMAN

NEW YORK, July 2.—Another cloud was cast over the European oil industry last week by Rumania's acceptance of Soviet territorial demands which may have a far-reaching influence after peace is restored.

In addition to the uncertainty clouding the Rumanian petroleum picture by capitulation to the demands of Stalin, Turkey's definite decision to remain a nonbelligerent has increased the vulnerability of Iraq and other near eastern producing fields in Iran, Saudi Arabia, Bahrein Island, Kuwait and Qatar.

The territory ceded to Soviet Russia upon demand of Stalin last week did not include any of the Rumanian fields or refining centers, but the Russians gained control of Constantza, the Rumanian Black Sea port through which approximately 75 per cent of Rumania's petroleum exports normally move. Unconfirmed reports were broadcast from London that the Soviets had included control of Rumania's petroleum industry in its demands and that this had been granted.

Even control of the port of Constantza would give Russia an important influence on the Rumanian petroleum industry. Approximately 23,000,000 bbl. out of the 32,000,000 bbl. exported by Rumania in normal peacetime moves through that outlet to world trade lanes.

The 28 refineries in Rumania have a daily crude-oil capacity of about 238,300 bbl., as shown in the accompanying list, which does not include several small skimming and compounding plants. Campina and Ploiesti are the main refining centers and they are in the territory constituting Rumania prior to the 1918 peace.

Decision of Turkey to remain a nonbelligerent last week and its subsequent leaning toward Soviet Russia for guidance in European affairs caused new concern over the future of Iraq petroleum resources. Iraq and Turkey were reported last week to have agreed to defend Syria against invasion, but it is doubtful that this understanding would have much influence on the stronger powers in central and eastern Europe if conditions develop to where Iraq oil supplies are essential to carrying on the struggle.

Oil Fields Not Yet Demanded

Recent moves of the Soviet Union starting with its territorial acquisitions in Finland and Poland and culminating last week in regaining Bessarabia along wth the northern part of Bukovina indicates to observers that a line is being formed for further struggle after western aims have been fulfilled by either the Allies or the Axis powers. In the event of a possible struggle between the Axis powers and Soviet Russia, control of Constantza would be important in the movement of petroleum from Rumanian fields regardless of which side reduces them to actual possession.

The territorial aims of Hungary and Bulgaria covering Transylvania and southern Bukovina, if successful, would reduce the area of Rumania to approximately half its size before the Soviet demands were granted but would still not include the proven oil fields of that country.

It is conceivable that Russia may exert important influence in the flow of Rumanian petroleum to Great Britain and Germany during remainder of the campaign in western Europe. With Germany busy in western Europe, Rumania is not in position to present more than mild resistance to any demands Soviet Russia may wish to impose. Since the Mediterranean outlet for Rumanian oil has been dried up with Italy's war action, the Soviet action last week cannot be considered to exert an influence on American petroleum demand by itself. Soviet Russia also obtained control of three Danubian River ports through which much of Rumanian oil traffic with Germany clears.

The request of the Rumanian Government that crude-oil production be increased 30 per cent to supply the demands of the Axis powers is unlikely to be met because current development work is limited to proven fields which are producing to capacity. Drilling is limited to inside or boundary wells.

Very little wildcatting is under way principally because of limitations imposed by the mining law now in effect. This law limits concessions to 40 hectares (25 acres) about the location and until it is broadened to give the producing companies more acreage it is unlikely that any extensive prospecting work will be undertaken. Such development is necessary to meet the requirements of the Axis powers.

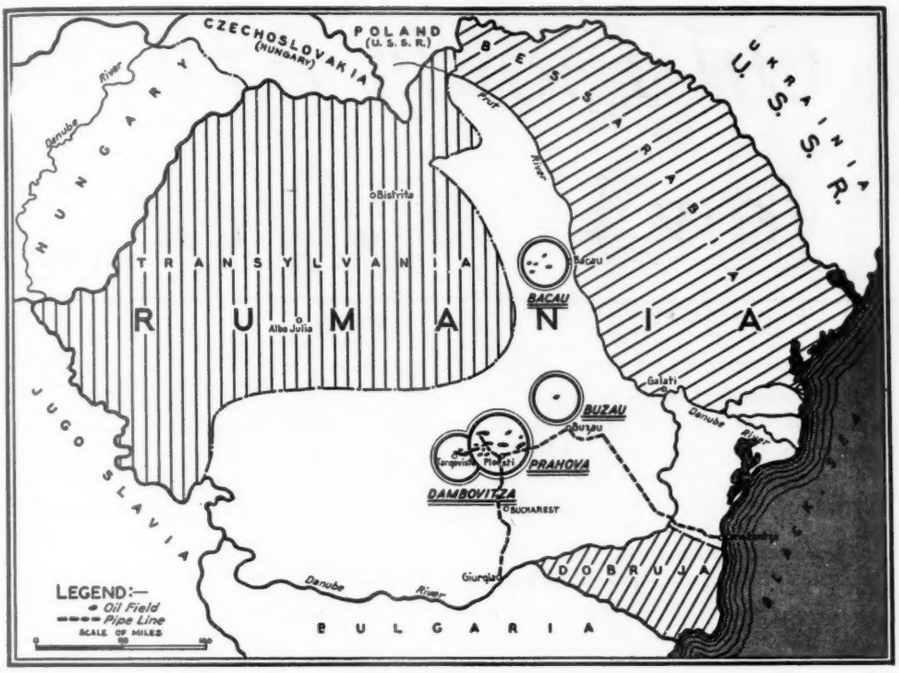
Current activity is centered in the Baicoi-Tintea, Margineni and Ceotura fields. The old Filipesti, Floresti, Orlea, Pacureti and Udresti fields have declined so greatly that their production is not included in production figures.

Until France signed an armistic with Germany, thus leaving position of the Allied fleet in doubt, and until Turkey virtually renounced its earlier position, the actual control of the near eastern petroleum reserves appeared reasonably well established. With the British control of the Mediterranean weakened by the French-German armistice and virtual abandonment of the Allied influence by Turkey, the security of Iraq, Iran, Arabia, Kuwait, Bahrein and Egypt is weakened.

Since declaration of war by Italy, movement of petroleum from the Near East through the Mediterranean is reported in New York to have ceased completely. Without deep-water transportation the crude-oil requirements from Iraq are reduced to not more than the capacity of Consolidated Refineries, Ltd.'s plant at Haifa, where one branch of the Iraq Pipe Line Co.'s system terminates. Restriction of shipping on the Mediterranean has naturally lowered the operation of the Consolidated refinery. The only regular demand from the Haifa refinery under current conditions is fuel for the British Navy in the eastern Mediterranean, for land military operations in Palestine and Egypt and from the neutral Balkan countries which can be reached without running afoul of the Italian naval and air patrols. Capacity of the Consolidated Refineries' plant is 40,000 bbls. daily, or approximately half of the normal production from the Kirkuk field in Iraq. Consequently, under the most favorable conditions of eastern Mediterranean demand, production from Iraq appears to have been reduced by at least 50 per cent since Italy entered the war with Germany.

One of the oil-storage depots at Constantza, the chief petroleum port of Rumania, control of which has been taken over by U.S.S.R.

About the time Mediterranean shipping lanes were closed by Italy's war action, large convoys of tankers started arriving at the Netherland West



Map of Rumania showing Bessarabia taken by Soviets, Transylvania formerly belonging to Hungary and Dobruja claimed by Bulgaria. While the Soviets have demanded control of Constantza the principal pipe-line and export terminal the oil fields of Rumania so far have not been acquired by invaders. Several small gas fields are located in Transylvania

RUMANIAN PRODUCTION

Name of field and location—	Producing wells	Daily av.* prod. (bbl.)
Moreni, Prahova district	278	14,358
Piscuri, Prahova	115	6,762
Margineni, Prahova	10	1,122
Aricesti, Prahova	12	587
Tintea, Prahova	95	24,253
Baicoi, Prahova	46	1,387
Lilesti, Prahova	7	859
Malaesti, Prahova	.....	.....
Boldesti, Prahova	89	12,676
Ceptura, Prahova	131	15,560
Chitorani, Prahova	.....	.....
Runcu Bustenari, Prahova	138	1,902
Chiciura-Bustenari-Bordeni, Prahova	424	2,500
Campina	68	574
Gura Draganesei-Pitigaia	3	60
Copaceni	8	262
Scaiosi	4	26
Magurele	.....	.....
Surani	.....	.....
Total Prahova	1,428	82,888
Gura-Ocnitei, Dambovita	323	25,639
Rasvad, Dambovita	37	5,040
Bucsani, Dambovita	85	6,320
Ochiuri, Dambovita	91	5,133
Teis-Aninoasa, Dambovita	13	945
Viforata, Dambovita	11	463
Glodeni, Dambovita	6	20
Doicesti, Dambovita	1	.....
Capsuna, Dambovita	work over	.....
Total Dambovita	567	43,560
Arbanasi, Bacau	94	823
Solont, Stanesti, Zemes, Taslau, Moinesti, Lucacesti, Comanesti, Grozesti, Tetcani, Casin Bacau district	172	925
Total Bacau district	266	1,748
Total Rumania	2,261	128,196

*Production shown is for the first of the year. The total production of Rumania has decreased about 5 per cent since that time.

RUMANIAN REFINERIES

Company and location—	Capacity†
Astra Romana S.A. (Shell), Ploesti	*40,000
Astra Romana-Xenia, Ploesti-Nord	6,000
"Carmen Petrol" S.A. Romana Pentru Mine si Petrol, Targoviste	4,500
Colombia Societie Franco-Rumanine de Petrol, Ploesti	*5,000
"Cometa" S.A.R. Pentru Industria si Comertul Petrolului, Ploesti	2,000
Concordia Societie Anonyme Rumaine pour l'Industrie due Petrole, Ploesti-Nord	30,000
Creditul Miniere S.A. Rumaine pour le Developpement, de l'Industrie Miniere, Brazi-Prahova	*12,000
Creditul Miniere S.A. Rumaine pour de Developpement, de l'Industrie Miniere, Aurora-Baicoi	6,500
Dacia Romano Petroleum Synd., Ltd., Ploesti	6,500
Fratia, Ploesti-Sud	3,200
I. Grigorescue S.A., Str. Poetul Alexandrescu No. 30, Targoviste, Targoviste	1,500
Industriile de Petrol Orsova-Tileagd S.A., Orsova	1,000
Noris, Ploesti-Sud	1,350
"Petrol Block" Societe Anonima Romana, Ploesti	*12,000
"Petrol Block" Societe Anonima Romana, Bucarest	2,500
Petrol Latina, S.A. Romana, Plopeni-Prahova	1,000
"Petrolmina" Societate, Romana de Mine si Petrol, Ploesti	3,000
"Petrolul Bucaresti" S.A. Romana (A.G.I.P., Italy), Bucarest	*7,000
"Photogen" Rafineria de Petrol, S.A. (Socony-Vacuum), Brasov	*750
"Redeventza" S.A. Pentru Exploatarea si Comertul Produselor Subsolului, Ploesti	3,500
Romano-Americana S.A. (Standard of New Jersey), Telecjen	*20,000
"Romano-Belgiana Depetrol" S.A., Ramnicul-Sarat	1,000
Spies Petroleum Co., Ltd., Ploesti	5,000
Steaua Romana S.A. pour l'Industriedu Petrole, Campina	*35,000
Steaua Romana, Moinesti	2,000
Rafinaria de Petrol Titan, S.A.R., Bucarest	1,000
"Unirea" Societate Anonima Romanada Petrole (Phoenix Oil & Transport Co., Ltd.), Ploesti	*23,000
Rumanian Consolidated Oilfields, Ltd., Targoriste	2,000
Total Rumania	238,300

*Refineries have cracking plants. †Barrels daily.

Indies taking cargoes from Aruba and Curacao where Lago Oil & Transport Co. and Royal Dutch-Shell large South American refineries are located. The inference is easily drawn that at least a temporary bulge in demand for petroleum from the Western Hemisphere came about through closure of the Mediterranean.

Some observers are inclined to view the expanded demand from Netherland West Indies as an expedient to bridge over the lag in flow of tankers from the Persian Gulf necessitated by using the longer route around the Cape of Good Hope. There has been no definite information received in New York whether Britain will continue to draw on the nearer source of petroleum supplies represented by South America or whether she has sufficient boats to indulge in the longer voyage around Africa, which requires approximately 71 days for a round trip by tankers of average speed.

Since the intensive action in France, Holland and Belgium ceased the British petroleum demand for military purposes has been reduced. There is no information available, however, on whether stocks have been severely damaged by the German bombing raids along the eastern coast of the country. The only tangible report released from London is that a German attack severed an oil pipe line leading from the coast to the Thames estuary.

French Refineries

Other developments of interest to the petroleum industry included reports that only the tanks and their contents of French refineries in the German occupied territory were destroyed during the invasion, leaving processing equipment virtually intact. American companies owning refining facilities in France have not been positively advised on the extent of damage. Plans conceived prior to the German invasion, however, called for destruction of tanks and their contents. Managers of European refineries could not be certain that in igniting storage tanks the processing equipment had escaped damage. There was no deliberate effort, however, to destroy the processing equipment and it is conceivable that the French refining capacity could be rehabilitated in a comparatively short time with restoration of peace. Assuming that the damage to processing equipment in French refineries has been slight, probably not more than 60 to 90 days would be necessary to rebuild tanks, import charging stocks and resume operations when shipping lanes and ports are again available. Consequently, resumption of normal petroleum trade with France when peace is restored will be limited only by economic destitution precipitated by the war.

In some quarters it was not yet clear whether processing equipment in the northern French refineries had been damaged in the French Government's program to impede the enemy. At least one company had been advised that its refinery had been "blown up."

●

Tax on Diesel Fuel Levied in Virginia

RICHMOND, Va.—The Virginia State Division of Motor Vehicles has cautioned operators of motor vehicles using diesel fuel that they must register with the division before July 1 at which time a tax of 5 cents per gallon on such fuel will become effective. The tax differs from the gasoline tax now in operation in that it is payable directly to the division by users. Such users will be required to make monthly reports to the division.

SPARKS . . . FROM THE NEWS

CALIFORNIA'S WOES: California likens its current dilemmas to those of Biblical Job, what with price cuts in crude oil, smaller offshore shipments to foreign and domestic ports, and threats of antitrust-law prosecution, not to mention curtailment-program troubles, causing deep furrows in its collective brow.

MORE TAX: The half-cent additional gasoline tax which became effective Monday makes an average of 6 cents in taxes paid to federal and state governments on every gallon sold. If the gasoline price f.o.b. plants had been the equivalent of that tax refiners would have known how to celebrate July Fourth.

THIRD LARGEST: The Centralia field in Illinois, with a new high of 123,000 bbl. per day for the past week, established the Marion and Clinton counties field as the third largest producing area in the United States. It is predicted this new glory will be short-lived, however, as the peak has apparently already been reached.

SUBMERGED: Southwest Texas covers a vast land area but the two new discoveries last week were in submerged areas in the bay region.

NO STIMULANT: Anyone who thinks that war stimulates petroleum consumption should read the Government's report on oil exports this week showing substantial declines since the war.

GRAB: Territorial grabs seem to be the fashion these days. Mr. Ickes has joined the grabbers by his ruling that Section 16 of the Elk Hills Naval Oil Reserve in California belongs to the U. S.

SPACING: With a wildcat on the east edge of Guthrie, Okla., showing as a prospective Wilcox sand pool opener, an optimistic city council moved to forestall a townsite-drilling orgy by passing an ordinance limiting one well to a city block.

SIXTY DAYS NEEDED: Crude-oil production last week dropped to the lowest level since January. A continuance of that output over the next 60 days will strengthen several weak spots in the industry's markets.

A BREAK: Natural-gas and oil producers had a break Monday when the Federal Power Commission decided it did not have the power to regulate gas production from wells in Kentucky. An opposite decision would have meant that the two industries had another fight on their hands to prevent federal control.

NEAT PHRASE: Sam Pettingill, former solon from Indiana, in addressing the A.P.I. at Evansville last week, warned that Roosevelt the First's admonition to walk softly and carry a big stick is being eschewed in favor of a policy of yelling loudly and waving a popgun.

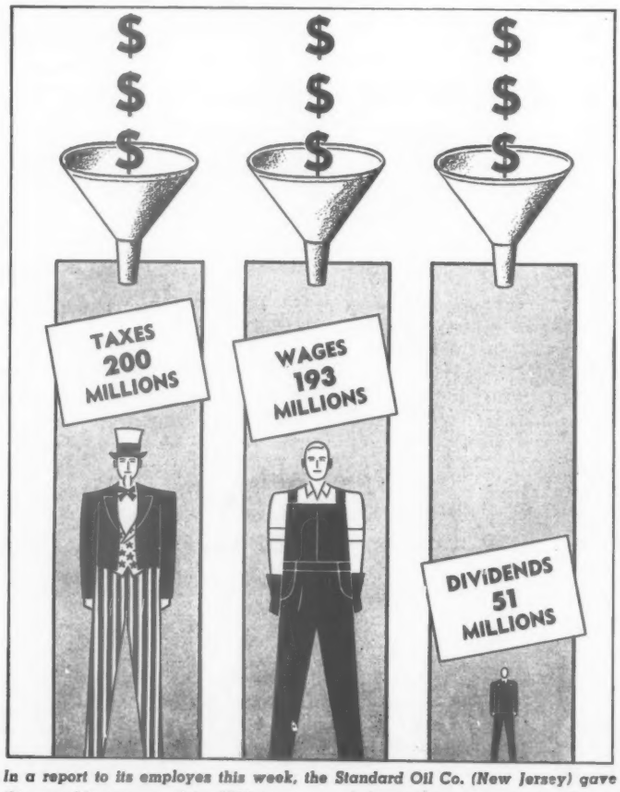
SOLAR-PLEXUS BLOW: Rumania's 125,000-bbl. daily crude production has moved into the center of the war arena. Its acquisition by the Soviets would be a solar-plexus blow to Germany which does not now have other important sources of petroleum supply.

WILDCATTING: West Central Texas is increasing in attractiveness to wildcatters. Seven tests were staked last week.

ACTION: Northeastern Kansas has edged into the Forest City basin spotlight, long centered on Missouri and Nebraska, and now has one oil pool to its credit and wildcats drilling in four counties.

IT CAN BE DONE: Royalty owners and operators in the Cotton Valley field of North Louisiana at New Orleans on Monday reached an agreement for largest unitized-recycling project yet on record. A 150,000,000-cu. ft. plant wildcats drilling in four counties in the basin area.

ONE COMPANY'S RECORD . . .



In a report to its employes this week, the Standard Oil Co. (New Jersey) gave this graphic account of its 1939 income, and the enormous tax burden it supports, surpassing the amount paid for wages and four times the dividends

Phillips Plans Gas Line From Panhandle to Wisconsin

By D. H. STORMONT

With two pipe lines already planned from the Panhandle natural-gas fields to the Great Lakes states, a third line from the Texas Panhandle to Milwaukee, is now being considered by Phillips Petroleum Co.

PLANS for the construction of an 877-mile natural-gas carrier from the Texas Panhandle to Milwaukee, Wis., were made known last week following filing of application by Independent Natural Gas Co. with the Federal Power Commission for authority to build the line. The company, a wholly owned subsidiary of Phillips Petroleum Co., proposes to market the gas at wholesale to distributors in Milwaukee and other communities in southern Wisconsin. This is the third such project now under consideration for making available additional natural gas of the Texas-Oklahoma-Kansas region to the industrial areas of Wisconsin and Minnesota, the other two being those of Western Natural Gas Co. and Kansas Pipe Line & Gas Co.

The proposed 877-mile Phillips line will be composed of 22-in. main line, with adequate compressor stations and lateral lines of smaller size pipe. Plans call for the construction of two compressor stations initially, and thereafter as the sales of gas increase compressor stations will be added to a total of nine, capable of transmitting approximately 201,400,000 cu. ft. daily. Initial construction cost is estimated at $28,698,000. The project would be financed by a $12,000,000 capitalization and a long-term security issue of $18,000,000.

Alignment surveys for the proposed carrier have not been made, thus it may be necessary to vary the route to some extent, but the tentative route is as shown on the accompanying map. The line will originate in Sherman County, Texas, and extend across parts of Oklahoma, Kansas, Missouri, Iowa, Illinois and terminate at Milwaukee, passing near the cities shown on the map. Laterals will connect with the facilities of distribution companies and industrial consumers. Natural gas is not being used at present for any purposes in the southern part of Wisconsin which the line will serve. It will, however, cross pipe-line systems of Northern Natural Gas Co., Natural Gas Pipe Line Co. of America, Panhandle Eastern Pipe Line Co. and Cities Service Gas Co., and will cross areas being served with natural gas by some of those companies. Trunk lines of the first two companies are shown on the map, but those of the latter two serve areas considerably further to the south and east of the territory which Phillips proposes to serve.

Gas-Distributing Companies

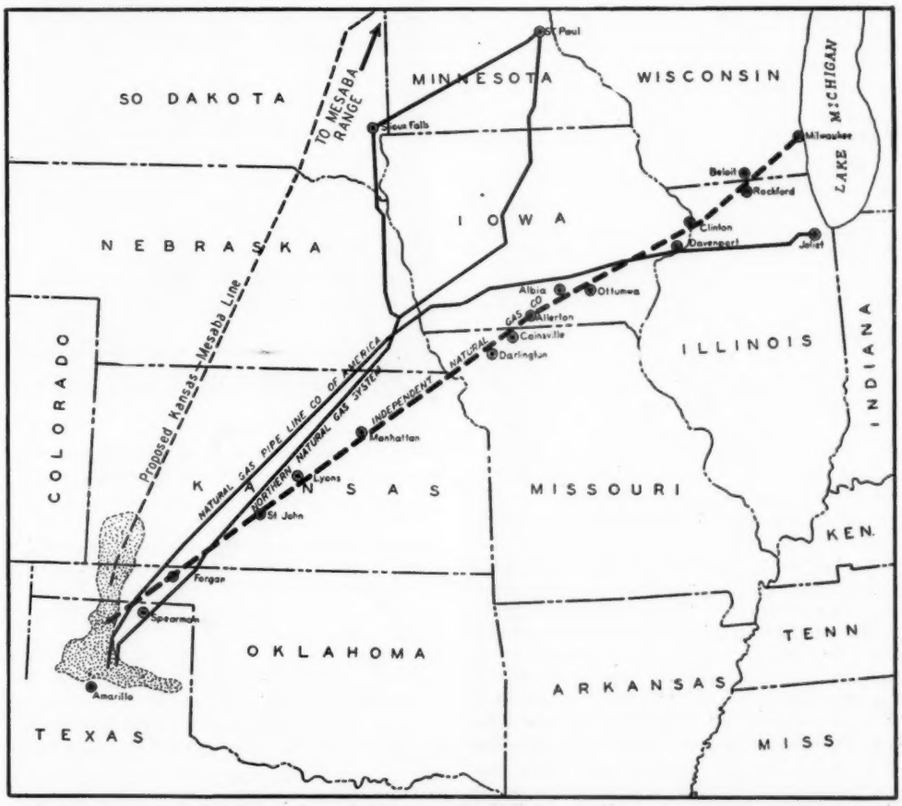
Companies in southern Wisconsin which now distribute manufactured gas and to which Phillips proposes to sell natural gas for distribution are Milwaukee Gas Light Co., Wisconsin Gas & Electric Co., Madison Gas & Electric Co., Wisconsin Southern Gas Co., Southern Beloit Water, Gas & Electric Co., Wisconsin Public Service Corp., and Wisconsin Power & Light Co. Total population served by these companies is 1,356,218 and 274,305 domestic consumers are served.

Phillips in its application stated that it holds under oil and gas leases 224,266 acres of proven gas properties in the Panhandle field, under which the natural-gas reserves were estimated to be 2,800,000,000,000 cu. ft., and 150,768 acres in the Hugoton field with estimated reserves of 990,000,000,000 cu. ft. In addition, the application stated, the company holds contracts for the purchase of natural gas from other leases in the Panhandle. It is believed that a considerable portion of the line's requirements would be supplied by sour gas production, adequate treating facilities being installed to reduce the sulfur content to market requirements.

As previously stated Kansas Pipe Line & Gas Co. and Western Natural Gas Co. likewise have announced plans for laying lines into this or adjacent territory. The Kansas company proposes to lay 1,040 miles of main line from the Hugoton field of Kansas and Oklahoma to South Dakota and Minnesota. This carrier, likewise shown on the map, would serve communities in the vicinity of the areas traversed by the line and would make available natural gas as a fuel for processing low-grade iron ore in the Mesabi Range area of Minnesota. (See the February 9, 1939, issue of The Oil and Gas Journal, Page 22.) Total cost of this project is estimated at $20,370,000. Officials of the company are seeking a loan from the Reconstruction Finance Corp. to finance the work, and have received a tentative approval for half of the amount.

Western Natural recently filed application with the federal commission proposing to construct a 770-mile line from the Hugoton field direct to Milwaukee with laterals possibly into Nebraska or Missouri or both. This company, like Phillips, proposes to sell gas only to industrial consumers and to public-utility companies for resale.

Whether all three of these lines will be constructed is problematical, but leaders in the natural-gas industry fully realize the tremendous potential market for Panhandle gas in the lake regions. Once the present administration's attitude toward industry is fully determined it is expected that development of this market will be undertaken on a much greater scale.



Map showing tentative route of the Independent Natural Gas Co.'s carrier (heavy dashed line) from the Texas Panhandle to Milwaukee, Wis.; the proposed line from the Hugoton field to South Dakota and the Mesabi Range in Minnesota; and two lines now transporting gas to the Lakes region

Oil U. S. Ace in Hole, Speaker Tells A. P. I. Members

By HARRY F. SIMONS

EVANSVILLE, Ind., July 2.—Oil is our ace in the hole in dealing with the dictatorships of the world, the Honorable Sam Pettingill, former Democratic congressman from Indiana, told more than 150 members of the Illinois basin chapter of the American Petroleum Institute at the conclusion of their first annual meeting held here Saturday.

Mr. Pettingill pointed out that America's domination of the oil industry should be an important factor as all of the European countries suffer from a shortage of this most important economic product and war material. Germany, according to Mr. Pettingill, must import 9 out of every 10 bbl. used and England and France are likewise dependent on imports for their petroleum supplies. Europe, said Mr. Pettingill, has a 60 per cent shortage of petroleum and it must import the balance of its requirements from the United States or Latin America.

"Modern war," said Mr. Pettingill, "is fought with petroleum." A wise policy for the United States to pursue is to prevent the acquisition of petroleum stocks by a potential enemy which could be used against us. This could be done by the U. S. Government acquiring an interest in companies which hold oil properties in South America. To do this it may be necessary to form a corporation in which the U. S. Government would have an interest similar to that held by Great Britain in some of the larger European oil companies. This would give the United States control not only over this country's oil exports but most of Latin America's as well. We could defend the Western Hemisphere under the Monroe Doctrine for a long time to come, if we had control of the Western Hemisphere's petroleum. the speaker concluded.

Mr. Pettingill was critical of the recent American foreign policy declaring that "instead of speaking softly and using a big stick, we were yelling loudly and waving a popgun." Mr. Pettingill outlined the foreign policy of this country over the past 150 years and pointed out that until 1900 this country was guided by the Monroe Doctrine. In 1900, under Theodore Roosevelt, and again during the World War, we temporarily abandoned this policy but returned to it when the U. S. Senate refused ratification of the League of Nations treaty and would not guarantee the integrity of the European nations. The recent European atrocities are pulling us away from this policy of noninterference and it is well known that President Roosevelt wants to help the Allies, Mr. Pettingill said. Recently we have been treading on dangerous ground and the attempt by this country to transfer war materials to France and England was a violation of our treaty obligations and an attempt to reenact by administration decree the Versailles treaty.

SAM PETTINGILL

Tells A.P.I. members that America's dominance of oil industry is an important factor in world politics

"Since 1936 we have been on both sides of the interference question until our foreign policy is no longer accepted at home or respected abroad. It is not my belief that Americans are willing to send troops to prevent acquisition by dictators. The efforts at intervention have been a mistake. We should return to the policy of noninterference and develop Army, Navy, and air arms so we can stand on the Monroe Doctrine.

"Our desire to police the world is not the sign of a soft heart, but the sign of a soft head and by the time the European war is over we will not have a single powerful friend if we continue our present policies," he continued. We will be hated by victor and vanquished alike because we opposed one and did not help the other enough, according to Mr. Pettingill. Aggressions and atrocities are not new things, Mr. Pettingill said, citing many instances where the so-called democratic nations were guilty of these offenses. He then recited instances where generals of the United States Army pursued a very ruthless policy and received popular support because of these policies. Actually, according to Mr. Pettingill, ruthlessness in war may have resulted in the saving of life by cutting short the length of hostilities.

Technical Sessions

Two excellent papers were present at the technical sessions and were followed by extensive discussions. The first, "The Performance of Subsurface Pumps," by S. B. Sargent, Sargent Engineering Corp., Huntington Park, Calif., was read by Lou West of that company. The performance of sucker-rod-operated pumps is dependent upon a number of factors, according to the author, some of which are intimately related to design of the pump, some to pump operation, and some to the fluid and well characteristics. The use of special instruments developed to record fluid levels and fluid pressures, rod loads, length of plunger strokes, and pump efficiencies have proven very beneficial to well operators and to others interested in pump installation and production. The opera-

Left: Bart DeLaat, Pure Oil Co., Olney Ill., incoming chairman, and William A. Watkins, Carter Oil Co., Mattoon, Ill., retiring chairman, Illinois basin chapter, A.P.I. Center: Victor Horner, Carter Oil Co., who read paper on rock-bit and tool-joint wear. Right: Lou West, Sargent Engineering Co., who read paper, "The Performance of Subsurface Pumps," and A. F. Lager, Sioni Co., Terre Haute, Ind.

tion of model pump installations and equipment for testing actual pumps and parts has also contributed much to the general knowledge of their requirements and performance, he said.

Mr. West then outlined the test apparatus used in obtaining data for the general type of performance curve and went on to explain the operating characteristics of pumps. He described various pumps and the results obtained with each, following which he described the method of obtaining dynagraph records showing pump performance. Effect of gas production and its effect on pumping performance also was discussed in considerable detail. According to the author the space left between the plunger valves and the standing valves, called the "clearance volume," is important when a pump is handling gaseous fluids. It is responsible for some loss in the effective fluid stroke of the plungers, and is effective in lowering the compression ratio of the pump and promoting gas lock.

Discussion following the article centered on the proper spacing of the pump valves and on the proper types of pump to use in different wells and different areas. Many of the production men brought up their own experience in areas where difficulties were encountered.

Rock-Bit and Tool-Joint Performance

Victor V. Horner, Carter Oil Co., St. Elmo, Ill., read a paper, "Development of Rock-Bit Efficiency and Study of Tool-Joint Life, Louden, Illinois," in which he pointed out that a careful study of bit performance and the development and use of selected-bit sequence in field practice had resulted in an increase in bit footages with a corresponding increase in penetration rates. He outlined the problems encountered and described the equipment used in drilling in the Louden area, pointing out that wells drilled in the early life of the field required six to seven rock bits with time on bottom of approximately 80 hours. The number of bits required per well was reduced through increased efficiency of the drilling personnel, the adoption of the standardized drilling-mud program and the reduction in the size of water courses in the bits used. In 1939 a new basis for comparison of bit types was developed, since by that time wells were requiring four to five bits and the comparison could be made between types of bits as used in numerical order. Effects of bit footage and drilling rate on the total penetration cost were shown. A study of the data gathered led to the development of a penetration-rate chart, in monograph form, which is supplied the field personnel and allows the driller to determine the average penetration rate for a bit at any depth and for any length of time the bit has been in the hole. Use of the chart helps the driller in making up his mind whether the bit should be replaced or not. Use of the chart has resulted in substantial reduction in the per-foot cost of drilling in the Louden field.

In a prepared discussion following Mr. Horner's paper A. W. Bailey, Hughes Tool Co., pointed out the bit-performance record was obtained in a comparably shallow area (1,575 ft.) where most of the weight of the drill stem was carried on the bit at all times. In deeper areas, he pointed out, the penetration rate was increased 400 per cent by increasing the weight on the bit from 10,000 to 20,000 lb., with a constant rotary speed of 225 r.p.m. at a depth of 2,500 to 2,700 ft. Bailey cited some experimental work conducted in the basin which showed that the penetration per 1,000 revolutions of the rotary table remained fairly constant for the rotary-table speeds up to 250 r.p.m. Also as the depths became greater the problem of rock-bit efficiency became more complex.

Mr. Bailey also said that the recent trend in tool-joint maintenance has been the purchase of oversize outside-diameter joints; use of the joints until they reach a practical minimum outside diameter and then replacing them with new joints. At the present time there have not been sufficient data collected to determine how much more hole can be expected from oversize joints. However, one company has found it can obtain from 30 to 50 per cent increase in footage by using 3½-in. A.P.I. full-hole tool joints of 4⅞-in. o.d. Floor discussion following the drilling papers centered on reduced cost per foot and the elimination of green bits, proper mud weights and the effect of pump pressure on penetration rates.

At the business meeting which was held before the afternoon technical session, Bart DeLaat, division engineer of Pure Oil Co., Olney, Ill., was elected chairman for the coming year, succeeding William A. Watkins, of Carter Oil Co. Other new officers are: Jake Haas, Centralia, Adams Oil & Gas Co., first vice chairman; and E. J. Reading, Evansville, Sun Oil Co., land man, second vice chairman. T. B. Steele, Kewanee Oil Co., Robinson, is scheduled for the secretary-treasurer position.

A board of advisers elected for 2 years includes: C. C. Carroll, Ohio Oil Co., Marshall, Ill.; A. F. Lager, Siosi Oil Co., Terre Haute, Ind.; R. B. Kelly, Pure Oil Co., Olney; William A. Watkins, Carter Oil Co., Mattoon, and Frank Wilson, Sohio Corp., Mount Vernon, Ill. A paper by Ray Moore, Arrow Drilling Co., "Rotary Drilling Problems in the Illinois Basin," which was scheduled for the afternoon session, was postponed until the next meeting.

•

Unfavorable Factors Confront California Oil Industry

By L. P. STOCKMAN

LOS ANGELES, Calif., July 2.—Judging by developments during the past several weeks the California oil industry will be confronted with a series of unfavorable factors during the remainder of the current year. The recent price cuts in crude oil and gasoline and the consistent decline in the fuel oil and diesel prices over the past year will certainly result in lower earnings by all branches of the industry. In addition to this unfavorable situation, the oil industry on the Pacific Coast is faced with smaller offshore shipments to foreign and domestic ports and marketers will be obliged to answer charges brought in by a special federal grand jury last May alleging violation of the Sherman antitrust law. In addition to these troublesome conditions the curtailment program has not been working any too smoothly and may hit a snag if the allowable of top wells is cut too severely during the next few months.

At the present rate of decline in allotments the production of top wells will be down below 150 bbl. per day by the end of the year and wells with smaller initials and no allowance for depth will have allowables of substantially less than 100 bbl. per day. Every one realizes that the consistent completion of numerous large wells is seriously jeopardizing stability but also recognize the inability of many operators to suspend drilling because of lease obligations and the necessity of maintaining an aggressive development program in order to be able to maintain current production. The situation has reached the point that operators must keep on drilling at a rate necessary to offset the added curtailment effected each month or suffer a reduction in production. This cycle has been going on for about 2 years and although attempts have been made to curtail drilling none of the various committees investigating the situation have been able to recommend a method of allevating conditions. As a result the allowable of all wells within the scope of the curtailment program is reduced each month by the pro rata amount of new production added by new wells completed during the period in question. Crude-oil production has been consistently in excess of the established allowable due primarily to excesses in the Kettleman North Dome, Elk Hills, Dominguez and Wilmington fields.

This excess is not especially disconcerting during the summer period when demand is at the peak but may become a disturbing factor next winter. At the end of May several major buyers of crude oil served notice on producers that all existing contracts for the purchase of crude oil would be canceled on June 30, 1940. As a result of this action a number of operators found themselves without a buyer on July 1 but within a short time other buyers made pipe-line connections and the only result was a transfer of sales from one buyer to another. Union Oil Co. stopped buying in the Playa Del Rey field and Shell Oil Co., Inc., cut off purchases in several fields. This concellation of purchase contracts has placed practically all purchasers on a day-to-day basis as most of the companies continued buying the crude oil that they were buying previous to the concellation order. The net result, therefore, was to cancel all contracts calling for 30 days' notice before purchases could be stopped and placed all crude-oil purchases on a day-to-day basis. This action has placed all the affected buyers in a better position to stop purchases in case such action becomes necessary by a drying up of offshore shipments to foreign and domestic markets. The severe drop in offshore shipments from California has furnished sufficient cause for alarm because if this leverage is lost because of purchases by Japan and other buyers in Mexico and other foreign fields it will necessitate a severe cut in California crude-oil production.

It is generally regarded because of the high degree of curtailment already in effect that any further substantial reduction cannot be accomplished on the present basis. Because of this operators are carefully watching the trend of offshore shipments. In addition to the severe decline in export shipments there has been a drastic reduction in the movement of crude and refined oil to the Atlantic seaboard for domestic consumption.

The case involving practically all marketing companies on the Pacific Coast charged with violation of antitrust laws is scheduled to get under way in Judge Paul McCormick's federal court in Los Angeles on November 19. This litigation has a tendency to retard normal intercourse of business because the charge is so broad that marketing executives hesitate to make any of the usual exchanges of courtesies such as pipe-line interchanges and purchases of crude oil and gasoline.

Deck view of six barge units combined in an articulated tow

Novel Barge Unit Designed by Socony-Vacuum Engineers

By J. P. O'DONNELL

THE transportation of petroleum products by inland waterways has increased tremendously during recent years and last year an estimated 60,000,000 bbl. of gasoline was moved by barge along the Mississippi River system alone. The volume of motor fuel transported on that river and its tributaries last year was close to 10 per cent of the total produced in the entire country.

Evidence of the importance with which this medium of transportation is regarded by some of the oil companies is seen in the novel barge unit of Socony-Vacuum Oil Co., Inc., designed by the company's engineers and put into service this spring. The unique design of these barges permits the assembly of six individual barges into a single articulated unit having an overall length of 585 ft. and a breadth, over guards, of 71 ft. The capacity of the articulated unit is 52,700 bbl. (50-gal. bbl.) or 2,635,000 gal., the equivalent of 330 8,000-gal. tank cars.

The most unusual feature in the design of this unit is that only the bow of the two barges and the stern of the two stern barges are equipped with rake ends. The other ends of these four barges are all box type as are both the bow and stern of the two middle barges. Therefore, when assembled, there is no notch between the ends of the barges as there would be if all had rake ends. This design has two advantages: It provides some increase in displacement and about 6 per cent more internal capacity than obtainable with barges having rake ends at both ends; and it eliminates notch resistance which may be quite considerable at certain conditions of speed, draft of barges and depth of water.

The value of eliminating the notch resistance was demonstrated during extensive model tests which were carried out at the model basin of the Stevens Institute of Technology at Hoboken, N. J. The tests were conducted under the supervision of Director K. S. M. Davidson and the results were particularly gratifying to the designers.

In comparison with a similar unit composed of barges all having rake ends, the model designed by Socony-Vacuum Oil Co., Inc., engineers showed a saving in resistance of from 10 to 26 per cent, the amount of saving being dependent on the draft of the barges, depth of water and speed of tow. In general, the tests indicated that the improvement over the rake end unit assembly increases with increasing draft and with increase of speed.

Another distinctive feature of this unit is that 6-in. wood guards are provided on one side only and when the barges are assembled the guards are on the outside. This permits coupling of the barges closely together which eliminates exposed wetted surfaces of the sides of the barges in contact with each other and thereby reduces frictional resistance.

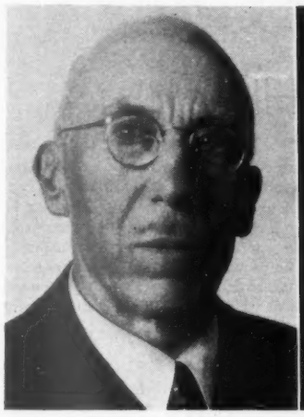
Each of the individual barges is 195 ft. long, 35 ft. moulded breadth, and 10 ft. moulded depth. They are constructed on the conventional transverse-framing system throughout the cargo space, each barge having 10 cargo tanks. The ends of the barges are framed longitudinally. They were built at the American Bridge Co. plant at Ambridge, Pa., on the Ohio River.

Each of the box-type center barges is equipped with a disel-driven cargo pump located below decks in an end of the barge. This provides a clear deck for the entire length of the flotilla and unobstructed vision from the pilot house of the towboat. The deck equipment includes the usual kevels, bitts and capstans in addition to a closed tank-venting system with spark arresters, piping, valves, hatches, draft gages, sockets for running lights, manholes, pump-room ventilators, and silencers.

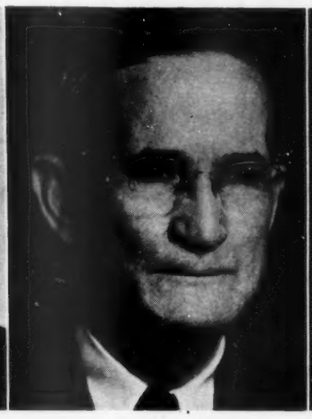
The main suction and discharge lines are 8 in. Each cargo tank is equipped with a 6-in. main suction line and the end tanks with an additional 2-in. stripper suction line.

Since loading petroleum permits easy control of draft and trim of each barge, all barges can be brought to the same draft readily. For convenience of checking drafts, draft gages, readable at a considerable distance, are built in at each end of all barges.

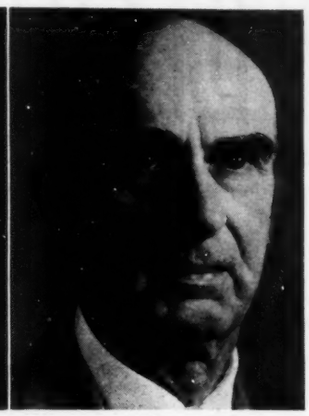
The unit was completed in March and made its maiden voyage on April 1. It is destined for service on the Mississippi and Missouri rivers.



W. T. ANDERSON



JAMES McINTYRE



THOMAS F. SMILEY

Three Journal Veterans Retire From Service

THREE veterans of the Journal's editorial staff retired from active duty on pension Saturday after periods of service ranging from 13 to more than 23 years with the publication.

Those retiring are: W. T. Anderson, managing editor; James McIntyre, consulting editor and for several years editor, and T. F. Smiley, associate editor. In good health, the three men will now devote their time to those pursuits to which each has looked forward through nearly 50 years of continuous newspaper and trade-journal employment.

The three men joined the Journal's staff after years of training in newspaper work and allied activities. Starting with this wealth of experience and background, the three have made major contributions in inaugurating and carrying out the policies around which the Journal's editorial program has been expanded and perfected in recent years. To those who have been privileged to be associated with them on the Journal's staff they were friends and counselors whose retirement will be a personal loss.

Outstandingly able in their particular duties, they won and held the respect of numerous contacts within the industry that they served. In their coverage of the petroleum and natural-gas industry, McIntyre's approach was essentially that of the statistician; Smiley, the news writer and analyst, and Anderson, the editorial commentator. Their reports and comments were accepted as authoritative and were widely quoted throughout the industry.

A native of Ireland, Anderson was educated at the Royal Academical Institution at Belfast and Queens College of the Royal University of Ireland at Dublin. His education included music and he became an accomplished pianist. His hobby for many years has been the accumulation of records of the best in music, supplemented more recently with a thorough enjoyment of foreign and domestic radio musical programs.

His newspaper work started in London where he worked on several papers, including the London Star. He came to the United States in 1891 and was employed by newspapers in Ohio and Pennsylvania until 1900 when he became editorial writer for the Pittsburgh Press. The following year he joined the Pittsburgh Dispatch, with which he was associated for 22 years, serving for several years as its chief editorial writer.

He became a member of the Journal's editorial staff in 1923, as associate editor. His weekly comments as editorial writer were immediately accepted as representing the position of the petroleum industry in numerous developments which resulted in new problems. He quickly sensed the need of public-relations work in the industry and his editorials directed much of the early work. He opposed federal control in all its suggested forms and his contributions featured The Oil and Gas Journal's "Oil Industry's Answer" published in 1924 and 1927. His editorials explained the Journal's pioneer position in the promotion of conservation and application of proration as a necessary adjunct.

McIntyre, the "Dean"

While he dislikes the title, James "Jim" McIntyre is the "dean" of oil writers not only in length of service but in establishing standards in the reporting of field activities which have been generally accepted by all writers. Stressing accuracy and completeness, he gained the confidence and cooperation of operators in all parts of the country in developing field reports and statistical data covering the producing and pipeline branches of the industry.

His association with the oil business began in 1886 as a messenger boy in the Bradford Oil Exchange in the period when crude oil was bought and sold in much the same manner as grains are traded in on the Chicago Board of Trade. Learning telegraphy while a messenger boy, he worked for stock brokers and for the commercial telegraph companies until he joined the reportorial staff of the Buffalo (N. Y.) Express in 1894. In the following year he was employed by the Evening Star in Bradford, Pa., and became managing editor of that newspaper and its successor, the Star-Record. He resigned after 22 years' service to become the Oklahoma and Kansas field correspondent of The Oil and Gas Journal.

Noting that crude-oil production statistics were only partly reported, McIntyre built up this important information and launched the Journal's annual and semiannual numbers, which quickly became the statistical reference manuals of the industry. He became editor of the Journal in 1922 and served in that capacity for 12 years when he was made consulting editor.

McIntyre likes to recall that for a short period, while yet a boy, he was employed in the business office of the Bradford Era, then owned by the late P. C. Boyle, founder of The Oil and Gas Journal.

Smiley's Sketches

While his work covered many phases of the Journal's editorial activities over a period of 13 years, Tom Smiley's sketches of outstanding personalities in the industry are probably the best known. He was interested in people and what they did and he liked to write about them in a manner greatly appreciated by their friends and the industry.

In his interviews he asked few questions and gave few signs that he was studying his man and absorbing what was said. Col. E. O. Thompson, member of the Texas Railroad Commission and the Interstate Oil Compact Commission, was the subject of one of his more recent writings. The colonel tells how, following the interview, which covered the high points of his life, he remarked to his secretary that he had "wasted 2 hours." A week later he and his friends were delighted with the human-interest sketch published in the Journal, and he was moved to say he never had been more accurately described and quoted in his life.

After learning the printing trade, which enabled him to pay his expenses at school, Smiley worked as a proof-reader in New York and became one of the four critical readers of final proofs on the Standard Dictionary. He then bought a half interest in the Coshocton (Ohio) Bulletin, a daily and weekly newspaper. Disposing of that 3 years later, he joined the staff of the Pittsburgh, Pa., Post as a reporter and feature writer. He worked for several Pittsburgh newspapers and for a year was editor and manager of the Monongahela City (Pa.) Daily Times.

He left that position to become night manager of the Tri-State News Bureau, a news-gathering organization operated by Pittsburgh newspapers. He filled that post for 23 years, resigning it in 1927 and joining The Oil and Gas Journal as associate editor. His service on the Journal has included handling of the refined-oil markets in the Mid-Continent area and editorial supervision of various departments. Part of his time has been devoted to biographical sketches and human-interest articles.

The retirements have necessitated several changes in the Journal's staff. Lynn M. Nichols has been appointed managing editor and W. V. Howard will be in general charge of field reports. H. Stanley Norman, in charge of the New York editorial office for the past 4 years, is now located in Tulsa in charge of markets. He has been succeeded in New York by J. P. O'Donnell, who until now has been in charge of the Journal's Oil City office.

D. H. Stormont of the Fort Worth office has been transferred to Tulsa as assistant to the managing editor. He has been replaced at Fort Worth by R. Marne Sanford. A. C. MacIntyre, who has been a member of the editorial staff of the Oil City Derrick for several years, will be in charge of the Journal's work in that area.

C. O. WILLSON.

STATE CAPITALS...

TEXAS

A DISTRICT COURT has no power to invalidate some wells granted by the Railroad Commission as special exception while at the same time validating other wells in the same permit, third Court of Civil Appeals held last week. The ruling of the court was in the case on appeal styled Humble Oil & Refining Co. v. Tom Potter. The commission had permitted the drilling of six wells on an 8.97-acre tract; the court below struck down all except two of them. Civil Appeals Court held all should have been invalidated. An abstract of the opinion follows:

"This Rule 37 case involved a strip 3,500 ft. long and 100 ft. wide, offset by Humble on the west and Sun on the east. Smith heirs owned title. In July 1934, by decree, heirs partitioned into nine tracts. Sun brought suit claiming the land; this suit was not finally disposed of until December 1937. Thereafter, two wells were drilled . . . and six separate applications were filed for one well on each subdivision. All were granted. Confiscation was the only ground considered by the commission and the commission manifestly . . . based its permit orders on the conclusion that their rule against subdivision did not apply. Sun and Humble brought suit. The trial court sustained permits for two wells, canceled the other four.

"It is not controverted that Smith heirs . . . were entitled to development of the tract . . . but it is manifested that the subdivision into nine tracts . . . gave the separate owners no vested right to an exception to the rule for development purposes. The permits clearly, therefore, cannot be sustained on the grounds upon which the commission granted them.

"The only issue considered by the commission was confiscation. A review here, therefore, is confined to that question. Since the subdivisions cannot be considered separately, the question of confiscation must depend upon a consideration of the tract as it existed before subdivision. This question has not been presented to nor determined by the commission. The trial court took the view that the tract was entitled to two additional wells. The commission has never determined how many wells are necessary to prevent confiscation, and if any are needed, where they should be located thereon. The courts are without authority to substitute their findings for those of the commission.

"Appellants (Humble and others) contend, however, as a matter of law that all said permits should have been held invalid. This contention is not sustained. The records show that Sun prevented any development of the property until the latter part of 1938, that both Sun and Humble had through wells within drainage distance been extracting large quantities of oil. It is manifested that owners of the tract have not been given a fair and equal opportunity to recover their fair share of oil."

THE NEW STATEWIDE ORDER effective Monday is expected to reduce Texas' production to approximately 1,300,000 bbl. daily, considerably below the U. S. Bureau of Mines estimated July demand of 1,339,400 bbl. The adjusted order which covers July and August imposed 5 statewide shutdown days each month, permitted the East Texas field 9 additional production days and boosted its average allowable from less than 400,000 bbl. a day to approximately 425,000 bbl. Simultaneously, the East Texas field was returned to an old proration formula allocating allowables on a basis of 2.32 per cent of hourly potential in addition to a 20-bbl. minimum.

Panhandle wells received a 20-bbl. per well minimum instead of the former 14.6, increasing their flow an estimated 20,000 bbl. daily. A number of Southwest Texas fields were slashed approximately 17,000 bbl. a day. The statewide production cut was designed to offset conditions brought about by collapse of foreign markets.

The following field increases were announced last week by the Railroad Commission: Rowe & Baker, Henderson County, from 76 to 200 bbl. daily, effective July 1; Sandy Point, Brazoria County, from 120 to 184 bbl., effective May 20; North Novice (Morris ranch), Coleman County, per well upped from 31 to 50 bbl. and field allowable fixed at 200 bbl., effective July 1; East Bryson, Jack County, Harper and Knappenbergers two water wells boosted from 23 to 40 bbl., effective July 1. Revised schedules on the Knight field in Young County show the per-well allowable raised from 37 to 49 bbl., effective June 22. There are eight wells in the field.

Allowables as of June 23, the day general cuts went into effect, amounted to 1,351,159 bbl. daily, or 6,559 bbl. in excess of the Bureau of Mines figure for June, according to the weekly report of the Oil and Gas Division. This figure did not take all the cuts into consideration. The total was off 9,805 bbl. from the prior week.

SEVERAL OPERATORS with wells producing large volumes of water were in Austin seeking exemptions from the various shutdown days ordered by the Texas Railroad Commission last week. Included in this group were some who had wells with unusual gas pressures, wells that produced large volumes of sand along with the oil. Absence of several commission officials attending the Bigham trial at Midland delayed action on the applications. Commissioner Lon Smith, though in his office, could not act because Commissioners Thompson and Sadler were in Midland.

For some time the commission followed the practice of exempting several fields from shutdowns. This was applied particularly to those fields which produce at virtual capacity, where water is some 80 per cent of the fluid produced. Recent statewide shutdown orders, however, have not contained this paragraph. Instead, a provision has been added which allows marginal wells to produce continuously, requires nonmarginal production to be shut down entirely or cut back during the month enough to reduce production to an equivalent of the allowable assigned for days the wells are permitted to produce.

CALIFORNIA

LAWRENCE VANDER LECK who submitted his resignation as California oil umpire and chairman of the Central Committee of California Oil Producers, official curtailment group, has refused to reconsider but has consented to act for a period of 30 days or until a successor has been chosen. The Central Committee appointed a special committee to consider the matter and make a recommendation as early as is consistent with the importance of the problem. Considerable friction has developed in the curtailment setup and Mr. Vander Leck firmly feels that a change in executive administration would be to the best advantage of all concerned. The Central Committee a month or so ago consolidated the offices of oil umpire and chairman of the Central Committee and in doing so appointed Mr. Vander Leck as oil umpire succeeding J. R. Pemberton. Previously the salary of the umpire was $15,000 per annum and the chairman of the Central Committee drew a similar stipend. When combining the two offices, the Central Committee set the annual salary of the combined offices at $12,000 yearly. It is generally believed that the current shakeup of the committee will prove beneficial and enhance future curtailment.

MICHIGAN

MEETING IN CHARLEVOIX July 1 and 2, the Michigan Conservation Commission was to consider the leasing of more than 200,000 acres of state-owned lands for wildcat-oil and natural-gas explorations and development. Announcing the plan, the Department of Conservation said operators have asked that public auction be ordered at which land will be offered for lease in Allegan, Gladwin, Clare, Isabella, Missaukee, Mecosta, Ogemaw, Osceola, Wexford, and Roscommon counties.

LOUISIANA

THE STATE LEGISLATURE in session in Baton Rouge is considering many bills affecting the oil industry. Last week the house passed, 65 to 9, a bill empowering the state mineral board to take over, develop and produce oil and gas reserves under state-owned land. The bill does not give the agents power to pursue wildcatting activity, but provides for the state development of such properties as may be proven for oil or gas by offsetting producers. A tax measure levying ½ cent per 1,000 cu. ft. of gas processed in the state was passed by the house and is under consideration by the senate. The rate was reduced from the original proposed rate of 2½ cents.

HARVEY G. FIELDS, United States attorney investigating oil proration in Louisiana, last Friday indicated that additional indictments might be forthcoming as a result of the department's activities. He stated that he had "definite information of another oil steal and excess illegal movement and production of oil in Louisiana involving approximately 926,000 bbl." The oil had all been produced from one field, he said.

KANSAS

KANSAS CRUDE PRODUCTION for July was fixed at 178,400 bbl. daily by the state Corporation Commission Monday. Theo A. Morgan, conservation director, said production would include a basic-allowable run of 159,400 bbl. daily, the amount recommended by the federal Bureau of Mines; 15,000 bbl. daily of "underage" oil in pools having shortages, and 4,000 bbl. of new oil daily. June production was 178,000 bbl. daily.

ATTY. GEN. JAY S. PARKER announced late last week the filing of 18 additional ouster suits against oil-royalty companies doing business in Kansas. Sixty-six such actions now have been brought. The state is seeking payment of back corporation fees from the companies. Mr. Parker said he had about completed his drive against the firms, although a few more suits may be filed.

OKLAHOMA

THE CORPORATION COMMISSION has set for hearing July 16 an amended petition of the Magnolia Petroleum Co. and others for 160-acre well spacing in the Chickasha field of Grady County. This order would apply to the Deese, or lower sand bodies in the old field, where several large gas wells have been completed. Earlier in the year Magnolia, Carter Oil Co. and Oklahoma Natural Gas Co. sought similar spacing over a larger area; the new petition covers some 5,760 acres. Sinclair Prairie Oil Co. was chief opponent to the first petition, since it has completed two gas wells in Section 22-5n-8w, each of 10-acre locations.

The OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published weekly by The Petroleum Publishing Company at Tulsa, Oklahoma

Problem in Balance

Five years ago the average refinery yield of products sold as gas oil and distillate from a barrel of crude oil was 4.5 gal. Now it is 6.5 gal.

In that 2-gal. increase lies a major development in marketing, the industrial significance of which is not appreciated by other branches of the industry.

The increase in output in those fractions between heavy fuel oils and kerosene is due to expanding outlets, several of which are new. Most of the demand comes from the rapidly increasing number of residences and other buildings heated by fuel oil. Practically every type of heating has been adapted to oil.

Then there is the enlarged consumption of these heavier oils by internal-combustion engines. The tractor, railway engine, bus, truck, ditching machines and stationary power ranging from the small units of the farm and shop to the mammoth diesel applications that drive steamships and generate electricity for towns and cities—all consume these heavier fractions as motor fuels, with results which point to rapidly expanding markets.

The consequence has been that the percentage increase in demand for these products over the past 5 years has been twice that of gasoline and three times the gain in residual fuel oils.

So far, so good. New markets should strengthen an industry, but in this case there have been reactions which are not constructive, owing entirely to the failure of refiners to balance their plant operations against the market changes.

There was a scarcity of these distillates and gas oils last winter, and there will be next winter unless adjustments are made in plant operations. Last winter many refiners stepped up their refinery operations or maintained them at summer levels in order to get the 6.5 gal. per barrel yield of these oils. At the same time they made 18.5 gal. of gasoline, a large part of which went to storage tanks already too full.

Price charts show what has happened. Excessive gasoline production and stocks have brought prices to the lowest levels in several years. The better grades of distillate and kerosene are bringing more than gasoline at many points.

Obviously the industry cannot expect adequate profits when it overproduces an 18.5-gal. market to supply a 6.5-gal. outlet.

Modern refinery processing has the flexibility to cope with this situation. Gasoline yields should be reduced where necessary to supply the peak distillate demand. This is largely a matter of varying cracking operations to balance the seasonal demands. The refiner who insists on operating his cracking equipment at capacity throughout the year is defeating his own ends by assuring excess production and low prices for the principal product he manufactures.

Furthermore, the accumulation of larger stocks of the heavier oils during the summer and fall months will reduce the necessity of peak refinery operations during the winter. Reports show that while there is more than 65 days' gasoline supply in storage, the stocks of light fuel oil represent less than 40 days' requirements. Cost of storing the fuels is much less than gasoline storage.

Broadly this problem also has a bearing on the price of crude at the wells. With more stress placed on the intermediate products the premium position of many high-gravity crudes is no longer justified.

There is no real conflict here between trends in refinery processing and markets as some have contended. The principal need is to utilize the flexibility which the technologists have given refineries to the end that products will be manufactured at the time they are wanted.

Willkie's Nomination Hailed as Good Omen for Oil Business

By HENRY D. RALPH

WASHINGTON, D. C., July 1. — Of great importance to the oil and gas industries and to business generally is the nomination of Wendell L. Willkie and the adoption of its platform by the Republican Party at its national convention in Philadelphia last week.

Whether or not Mr. Willkie is elected president, his candidacy is bound to influence the course of the next administration in a way favorable to business. If the Republicans take over the Government next January they are pledged to policies permitting business to develop and prosper, and the chief executive will be a business executive who has worked his way up from the bottom. If Mr. Willkie fails of election and the Democratic Party remains in power the administration will be practically forced to adopt some of the moderations and reforms in the New Deal which the Republicans are now advocating.

In the political campaign now starting the Republicans are making a principal issue of fostering business and reducing government regulation, competition, interference, and control. The general popular approval of such a course, engendered by the realization that national defense requires efficient industry, makes it virtually impossible for the Democratic leaders to revert to their campaign tactics of 3 or 4 years ago in attacking business and attempting to turn public opinion against business men and industrial executives.

In Mr. Willkie the Republicans have not only a forceful personality and a good candidate from the politician's standpoint, but also a man who has made good in the business world, who knows the problems of both big and little business and how to administer a large organization successfully. This is assurance that should he be elected he will put the Government on a business basis and see to it that government policies are such as to give business a break. As president of Commonwealth & Southern Corp., one of the largest public-utility holding companies, Mr. Willkie has borne the brunt of the New Deal attack on business, for his company operates in the Tennessee Valley area and has had to fight T.V.A. competition, the holding company "death sentence" law, and the attack on the "power trust" and big business in general.

This should mean much to the oil and gas industries if Mr. Willkie should be elected president. The gas industry is already a public utility under the federal natural-gas act, and the oil industry is just around the corner from this status if certain New Deal planners have their way. In his writings and speeches Mr. Willkie has never claimed that business, particularly utilities, should be completely free from all government regulation, but he has insisted that this regulation be designed to foster the best interests of business as well as of the general public.

While classed as a "big business man," the Republican candidate is known as a liberal among his class. He approves of most of the social objectives of the New Deal but advocates modifications to make them operate more efficiently and with less friction.

The Republican platform contains several planks of special interest to business. Of special interest right now is that on monopoly, which pledges to enforce antitrust laws without prejudice or discrimination, but condemns the use or threatened use of criminal indictments to obtain through consent decrees objectives not contemplated by law.

It promises to reduce to a minimum federal competition with business, and to encourage small business men by removing unnecessary bureaucratic regulation and interference. It promises to revise the tax system and remove those practices which impede recovery and to apply policies which stimulate enterprise, and not to use the taxing power as an instrument of punishment or to secure objectives not otherwise obtainable under existing law.

The tariff plank favors the general principle of reciprocal trade, but condemns the manner in which "so-called reciprocal trade agreements of the New Deal have been put into effect without adequate hearings, with undue haste, without proper consideration of our domestic producers, and without congressional approval."

Many other expressions in the platform follow the lines which business has been advocating for several years. It is very unlikely that the Democratic platform, to be drafted in Chicago 2 weeks hence, will take a contrary stand on most of these questions which affect business. Therefore, it seems safe to predict that the era of business-baiting by the federal Government is about over, and that, win or lose, the Republicans have helped the cause of business by adopting a business-favored platform and nominating a business executive for the presidency.

•

Ickes Rules Title to Disputed Section In California Belongs to U. S.

IN a significant ruling, Secretary of the Interior Harold L. Ickes last week held that title to Section 16 of the historic Elk Hills Naval Oil Reserve in Kern County, San Joaquin Valley, California, belongs to the United States.

Although oil production has not yet been developed in the area, Section 16 lies within a few miles of Section 36, characterized as one of the most valuable square miles of oil land in the world. A few months ago, the United States successfully maintained its ownership of Section 36 after a lengthy court battle to sustain and enforce a decision in its favor rendered by Secretary Ickes. As a result of the Government's victory in the Section 36 case, that area will be returned to the U. S. Navy. Similar action is planned for Section 16.

Rejecting the appeal of the General Petroleum Corp. of California, Thomas A. O'Donnell and Hamer I. Tupman, who had protested that they were entitled to the property through acquisition from the State of California, Secretary Ickes upheld findings in the General Land Office that, because it was known to be mineral in character at the time official survey was accepted in 1903, Section 16 was not covered by the federal school-land grant to California. Consequently, the secretary ruled, "title to this section was never vested in the State of California or its transferees, but has remained and now is in the United States."

Both these cases had their background in legislation passed by Congress in March 1853. Under that law, it was stipulated in part that Sections 16 and 36 of every township of public lands in the State of California "shall be and hereby are granted" to said state for the use of the public schools. Subsequently, the courts held that this grant did not apply to lands of known mineral character, these being excluded in conformity with the general policy of the federal Government to reserve public lands chiefly valuable for minerals for the United States.

When oil-development activities struck the Elk Hills territory in Kern County, California, around 1910, private prospectors bought up portions of these school-land sections and claimed title on the ground that the mineral character of the property was not known at the time the approval of the survey of the lands was given by the General Land Office in 1903.

Challenging this claim, the Department of the Interior began proceedings involving the right to title in Section 36, while the issue in respect to Section 16 was temporarily held in abeyance pending settlement of the controversy over the other section. Months of hearings and court proceedings followed, during the course of which expert geologists, mining prospectors and other witnesses testified that the mineral character of the area was sufficiently recognized in 1903 to bring Section 36 under the provisions of the federal statute.

During the course of the proceedings, it was developed that extraction of petroleum resources from the Section 36 portion of the Elk Hills area included $8,300,000 worth of crude oil; $3,000,000 worth of dry gas, and gasoline valued at $1,104,000.

The controversy involving Section 16 was heard by a Register of the General Land Office in California in December 1935, and in 1937 that official reported to the Commissioner of the General Land Office in Washington that this section, too, was known to be mineral in character in 1903, and was therefore the property of the Government under the federal law.

The register's opinion was affirmed by the commissioner of the General Land Office on March 24, 1938; the petroleum corporation and the other claimants appealed to the Secretary of the Interior, who rendered the ruling upholding the position of the General Land Office officials.

Great Lakes newest oil transport, the 6,500-ton (48,000-bbl.) steam tanker "I. S. Wescoat" takes on furnace oil and kerosene at Toledo docks on maiden trip

Make sure they're ALL

TUBE-TURN FITTINGS!

The same features of uniformity, accuracy, strength and dependability that for more than twelve years have made Tube-Turns America's leading welding elbows and returns also characterize all other Tube-Turn fittings and flanges.

Three members of the famous Tube-Turn family are pictured here—a Reducer, Lap Joint Nipple and Forged Steel Lapped Flange. In addition to 90°, 45° and 180° fittings in Standard, Extra Strong and Light Gauge wall thicknesses, the line also includes Tees, Crosses, Laterals, Caps, Shaped Welding Nipples, Saddles—in fact practically every type of welding fitting, as well as a complete line of Forged Steel Flanges.

Ask your Tube-Turn distributor for a copy of the new Tube-Turn Catalog and Data Book No. 109, or write us direct.

TUBE-TURNS
Incorporated
LOUISVILLE, KY.

The word "Tube-Turn" is NOT a necessary general trade name for welding fittings. It is the registered trade-mark for the products made by Tube-Turns, Incorporated, under their patents.

Deep Rock Oil Decision Upheld in Circuit Court

The tenth Circuit Court of Appeals at Tulsa in a decision last Saturday affirmed a lower court judgment excluding the Standard Gas & Electric Co. from participating in reorganization of the Deep Rock Oil Corp.

Standard filed its claim against Deep Rock in the sum of $9,342,642.37, and on a former appeal to the Supreme Court of the United States a plan based upon a compromise of Standard's claim was disapproved by the Supreme Court. Upon the return of the case to the District Court a plan of reorganization was proposed which Judge Kennamer, on February 29, 1940, found was in conformity with the opinion of the Supreme Court. Under this plan there are to be issued to the noteholders of Deep Rock, $5,500,000 of 6 per cent notes and 300,000 shares of stock of the new corporation, and there are to be issued to preferred stockholders of Deep Rock 100,000 shares of stock of the new corporation.

From this plan excluding Standard from any participation in the assets of Deep Rock, Standard appealed to the Circuit Court of Appeals where the case was argued at Denver on June 11. Judge Kennamer's judgment was affirmed by unanimous court, the opinion being written by Judge Huxman.

Washington Price Probe Suspended by Plea

WASHINGTON, D. C.—The Justice Department has suspended its investigation of charges that gasoline retailers of Washington, Inc., had undertaken a program which included fixing of prices in the District of Columbia.

It was stated that the organization has abandoned the program under investigation and is taking steps to surrender its charter.

The department's probe grew out of a meeting of gasoline retailers at which it was agreed to end a price-cutting war that had swept the city.

A letter from the retailers' group, setting forth its present position, released by the department, read in part as follows:

"Upon learning of the proposed investigation, representatives of the association immediately called upon members of your staff. Activities of the association were explained in detail and all records were made available to your staff. No further steps have been taken to carry out the program sponsored by the association.

"It has always been the purpose and intent of our association to act within the letter and the spirit of the law. After conferring with members of your staff, we have decided to discontinue the program. Steps will be taken forthwith to effect dissolution of our corporation, and such proceedings will be expedited with all reasonable dispatch."

Cities Service Company Acquires I.T.I.O. Stock

NEW YORK, June 28.—The Cities Service Co. has bought for 37¾ cents a share 1,853,000 shares of the common stock of the Indian Territory Illuminating Oil Co. and has agreed to pay the same price for the 170,000 remaining shares outstanding if sold to it by August 1.

The Indian Territory company was organized in 1901, pioneered in the Mid-Continent area and discovered the Oklahoma City field on December 4, 1929. With the decrease in production in the Oklahoma City field, the company's earnings declined sharply. Last year it had a net loss of $1,246,652 after all charges, taxes, and reserves. At present the company's crude output approximates 20,000 bbl. daily.

Cities Service bought the $700,000 block of stock from the estate of H. V. Foster who until his death was a dominant figure in the affairs of the Indian Territory company.

Capitalization of the Indian Territory company consists of 1,304,600 shares of common Class A stock and 7,090,036 of common Class B. At the close of 1938 Cities Service owned directly or through subsidiaries 92½ per cent of the A stock and about 73 per cent of the B.

DEATHS

WILLIAM H. BERG, 58, president of the Standard Oil Co. of California, died at his home at Hillsborough, near San Francisco, June 26, of a heart attack. He had been confined to his home for a week. He is survived by his widow, Mrs. Irene L. Berg, and a brother, Walter Berg, of Iowa. Mr. Berg was a director of the American Petroleum Institute, California Oil and Gas Association, the Golden Gate International Exposition, and was active

W. H. BERG

in other organizations. He was elected president of the Standard company on December 9, 1937, succeeding K. R. Kingsbury.

Mr. Berg's whole business life was with this organization. He joined the company in 1902 as a stenographer, and during the ensuing 35 years rose step by step to the office which he then assumed. In 1908 he was appointed chief clerk of the producing department, with which he since was closely identified. In 1916 he became general superintendent of the northern division, with headquarters in Bakersfield. Later he was advanced to assistant manager in San Francisco, being placed in charge of acquiring land and leases. In 1920 a land and lease department was organized and he became its manager. The following year he was made general manager of the foreign crude-oil production department, His work taking him to various countries in Latin America. It was in January 1924 that Mr. Berg was made a member of the board of directors. Three years later, in March 1927, he was elected a vice president.

ARTHUR L. (COKE) CLARK, 59, production and drilling superintendent for Carter Lease, Inc., died at his home in Breckenridge, Mich., Friday, June 21, following a heart attack.

JOHN BENJAMIN BODY died at Hindhead Court, Hindhead, England, on May 23. As a young engineer in 1890 he took part in the execution of the vast contracts for canal, harbor, and railway work in Mexico. In 1901 his firm started exploration for oil in Mexico in which he took a large share of responsibility. In 1919, when the management of the Mexican Eagle Oil Co. was entrusted to Royal Dutch-Shell, the first Lord Cowdray paid him a very high tribute of praise for his work. Since 1919 Mr. Body resided in England, and acted as a liaison officer between the English and Dutch interests in the Royal Dutch group.

HAROLD A. BROWNE, 48, transportation manager of the Shell Oil Co., Inc., died in New York from a heart attack on June 27. He was chairman of the petroleum committee of the New England Shippers Advisory Board, a practitioner before the U. S. Interstate Commerce Commission, and a member of the board of councilors of the American Petroleum Institute.

●

C. E. Crawley Resigns From Consolidated Oil Corp.

C. E. Crawley, better known as "Gene" has resigned from the Consolidated Oil Corp. as vice president in charge of domestic production and pipe-line operations. Mr. Crawley has had broad experience in the executive offices of the producing and pipe-line divisions of the oil industry having been with the Gypsy Oil Co. before joining with the Sinclair interests. For nearly 20 years Mr. Crawley has been in the New York offices of the Sinclair interests having gone from the Tulsa offices where he gained much of his early operating experience in the company.

California Central Committee Of Producers Moves Office

LOS ANGELES, Calif.—The office of the Central Committee of California Oil Producers and the oil umpire has been transferred to 1160 Subway Terminal Building, 417 South Hill Street, Los Angeles. The new telephone number will be Madison 7731. The working hours of the oil umpire's office will be from 8 a.m. to 5 p.m. from Monday to Friday, inclusive. The office will not be open on Saturday.

Socony-Vacuum Barges Gasoline to Sioux City

SIOUX CITY, Iowa, June 27.—Sioux City today celebrated the arrival of Kansas City Socony and its barges loaded with 400,000 gal. of gasoline, first commercial tow to reach the city on the new Missouri River channel.

THE MARKETS*

CRUDE OIL: The needed reduction of 209,213 bbl. daily in crude-oil production last week if continued over a period of several weeks will improve a market situation which has its weak spots. Illinois established a new peak and there is surplus crude available in that area. It is believed that the peak in Centralia production will be reached in the near future indicating that the state's output will start to decline before the end of the month.

REFINERY: Abrupt cessation of active gasoline buying that marked the second half of June has further weakened the market, but feeling generally is that prices will hold at about present levels. Sharp decline in exports has lowered prices of wax and lubricating oils. Position of kerosene and tractor fuels improving in Middle West. Heavy industrial fuels gaining strength. Natural gasoline continues weak. Light fuels inactive.

TANK-WAGON AND POSTED DEALER: All gasoline prices advanced a half cent with addition of that amount to federal tax. Subnormal prices raised generally 1 cent throughout Oklahoma. Standard of New Jersey reduced dealer tank-wagon prices 0.65 to 2.05 cents at points in North Carolina. Tank-wagon and dealer prices reduced 2 cents in Macon, Ga., and Houston, Tex.

FINANCIAL: Oil shares recorded a further decline in a sluggish market. Average of 30 representative stocks for week ended June 29: High, 21.54; low, 20.28; close, 20.84. Week ended June 22: High, 21.77; low, 20.54; close, 21.07.

---

*Detailed information in market section.

Large Losses in Export Markets Are Shown in Special Study

By HENRY D. RALPH

WASHINGTON, D. C., July 1.—The serious loss of export markets for petroleum products as a result of the European war is graphically shown by a special study just completed by the petroleum section of the Department of Commerce.

The tabulation, taken from official export statistics, shows shipments during the first 8 months of the war compared with the corresponding 8 months a year previous. The latest month for which official figures were available in detailed form is April 1940, and since then the export situation has become much worse with the German occupation of French ports and the entry of Italy into the war. The Mediterranean Sea is closed to American flag tankers under our neutrality law, and for all practical purposes the Mediterranean is closed to other commercial shipping by reason of naval operations and the British blockade of Italy. The British blockade now extends to all areas occupied by the Axis powers, and exports to the nonbelligerent areas, such as Sweden, Switzerland, and the Balkans, are virtually impossible. England is not a relatively heavy purchaser of American oil and her purchases here have dropped appreciably during the war period.

There are few bright spots in the petroleum export picture for the near future. With the Mediterranean closed to British shipping, England may attempt to supply much of her oil needs by routing tankers from the Near East around Africa, and if Italian naval operations off East Africa make this too hazardous the British may turn to the Western Hemisphere for greater quantities of oil. However, because our neutrality law prohibits credits for war supplies, England probably will prefer to use her dollar exchange for airplanes and other fighting equipment not procurable elsewhere and to purchase oil from Latin-American sources.

Early Peace No Panacea

Nor would an early peace dictated by Germany bring much increase in American petroleum exports, in the opinion of observers here. Refineries in France, the Low Countries, and perhaps elsewhere in western Europe probably have been or will be destroyed so that there would be an increased demand for refined products at the end of hostilities, but this might be only temporary. Germany could be counted on to use all technical methods to step up production of oil in Poland and Rumania and perhaps Russia. It is expected that as part of the peace settlement Germany would insist on getting either control of or access to oil resources controlled by the British and French in the Near East and probably also in Netherland East Indies. Further German needs for oil probably would be met from the Caribbean, since it is a foregone conclusion that a victorious Germany would prefer to purchase Mexican, Colombian, and Venezuelan oil rather than deal with the United States—for both economic and political reasons.

A long war between England and the Axis might result in increased British purchases of American oil, particularly if German and Italian submarine activity closes other sources. Present indications, however, are that rationing of non-military uses of petroleum products has just about offset increased military uses except for aviation gasoline.

In commenting on its tabulation of war-time exports, the Commerce Department said:

"When war broke out in Europe, it was generally supposed that military operations would use up in a short time much of the oil in storage, necessitating early replenishment, some of which would be furnished by this country. Instead, curtailment of civilian consumption and delaying of total war until recent weeks resulted in curtailment of American oil exports to Europe.

"In the accompanying table comparative statistics are shown for September 1938 through April 1939, and September 1939 through April 1940.

"With foreign developments taking place so rapidly, it is easy to go astray in estimating the future. Certain features of the international oil situation, however, appear obvious. For practical purposes, the whole of Europe and the Mediterranean region, except the British Isles, Spain and Portugal, are now closed as outlets for American petroleum products. On the other hand, with the Mediterranean unsafe for British tankers, oil from Iraq, Iran, Bahrein Island and Netherland India must be convoyed or take the longer route around the Cape of Good Hope. Due to the longer time required for oil from the Near and Far East, Britain may endeavor to obtain an increasing proportion of its needs from the United States and Latin America."

EXPORTS OF PETROLEUM PRODUCTS DURING THE WAR MONTHS AS COMPARED WITH THE CORRESPONDING PERIOD OF 1938-1939

(Quantities in barrels)

Product—	Sept. 1938 through Apr. 1939	Sept. 1939 through Apr. 1940
Crude petroleum	17,035,608	9,706,482
Natural gasoline	1,791,251	475,035
Aviation gasoline*	543,667	799,485
Motor gasoline	14,310,111	8,072,076
Naphtha, solvents and other light products	304,958	183,550
Kerosene	2,475,532	1,647,988
Gas oil and distillate fuel oil	9,424,404	5,601,740
Residual fuel oil	3,418,245	1,836,273
All lubricating oils	3,964,259	5,223,798

*Data for aviation gasoline not collected as such prior to January 1939—formerly included with motor gasoline; therefore the first column does not include figures from September to December 1938.

Danger of F. P. C. Jurisdiction Lessened by Court Decision

WASHINGTON, D. C., July 1.—The Federal Power Commission today decided it has no jurisdiction over bona fide producers and gatherers of natural gas not otherwise engaged in interstate distribution.

The decision was in the case of the Columbian Fuel Corp., in which the Independent Petroleum Association of America filed a brief asserting that the commission has no such jurisdiction. This decision is considered very important to the oil industry, which must produce some gas and deliver it to pipe lines which may ultimately distribute it interstate. Had the commission asserted jurisdiction it would have placed all such producers under the Natural-Gas Act. The exact scope of the decision will not be known until majority and perhaps minority opinions are published, but the decision is understood to be broad enough to remove danger that oil wells might be regulated by the Federal Power Commission.

The Columbian Fuel Corp. produces gas from 138 wells on its properties in eastern Kentucky. Under a long-standing contract it sells its gas at the terminals of its gathering lines in Kentucky to the Warfield Natural Gas Co., a subsidiary of the Columbia Gas & Electric Corp. (The Oil and Gas Journal, Mar. 21, p. 33.) At the Kentucky State line the Warfield company delivers this and other gas to other subsidiaries of Columbia Gas & Electric Corp. for transportation and sale in interstate commerce, principally in West Virginia and Maryland. The contract between Columbian and Warfield, which antedated passage of the Natural-Gas Act, provided that the price of gas would be 12 cents per 1,000 cu. ft. to November 1, 1939, and 15 cents thereafter. When the Natural-Gas Act was first put into operation Columbian filed this tariff with the commission, and last fall filed a new tariff quoting the 15-cent rate. On its own motion the commission suspended the rate and ordered an investigation. Hearings were held during December and January, at which the Columbian corporation relied chiefly on the contention that the Federal Power Commission has no jurisdiction over its rates since it is not engaged in interstate commerce but only in local production and gathering of natural gas.

The case involved interpretation of the scope of the Natural-Gas Act and whether the Federal Power Commission has authority to regulate the price at which local producers sell gas which eventually is resold and transported in interstate commerce. Had the case been decided in the way recommended by the commission's attorneys, those associations intervening felt that it might well have resulted in federal control of the oil industry more drastic than that proposed in the Cole oil-control bill.

International

Japan . .

Natural Gas Institute Completes Pilot Plants

THE Natural Gas Institute of the Formosan Government General has completed two pilot plants, one to produce carbon black, and the other a hydrogen-carbon monoxide mixture to be used in the synthesis of gasoline. The carbon-black plant was constructed by the Mitsubishi Trading Co. at a cost of 480,000 yen (yen 23 cents), which includes the cost of equipment imported from the United States.

The gas plant employs a process reportedly developed by experts (Kokura and Nagai) of the institute and termed in the local scientific literature something like "internal-heat stoppage-continuation process." Not many other details are known about the process, but it is said that a catalyst is used.

The H-CO mixture, besides serving as starting material in the synthesis of motor fuel, will also be used to test the synthesis of methanol and other alcohols, isooctane and butadiene-derived rubber. The institute's process, it is claimed, also may be applied to the treatment of methane gas available as a byproduct in hydrogen-consuming industries, such as coal tar, and for hydrogenation plants and ammonia works.

Plants for treating methane are under construction by the Mitsui Mining Co. at its Omuda Fischer-Tropsch plant, and by the Hokkaido Synthetic Oil Co., but they employ the Koppers and I.G. processes, respectively, and due to the delay in the arrival of equipment from Germany, are not able for the time being to commence operations. Since plans and equipment are also difficult to obtain from the United States because of the "moral embargo" that has been clamped on exports to Japan, all hopes have been pinned on the native process.

The carbon-black plant employs a thermal-cracking process, also developed by the institute. It is claimed that the process differs in many details from thermal-cracking methods employed in the United States in the production of carbon black. Carbon black has not been produced on a large scale heretofore, and exclusively by simple processes of incomplete gas combustion. Japan still imports 80 per cent of its carbon-black requirements, mainly from the United States.

Industrial Uses of Mineral Oil in Japan

According to statistics recently released by the Department of Commerce and Industry in Tokyo, Japan's consumption of industrial fuels in 1938 included 7,370,000 hl., or about 4,600,000 bbl. of mineral-oil products. The corresponding figures for 1937 and 1936 were 6,873,000 and 7,198,000 hl., respectively. It thus appears that the China "incident" has had but little effect on mineral-oil demand in industry.

The metallurgical industry accounted for nearly one-half of the total consumption, namely, 3,578,000 hl. The chemical industry came next with 1,562,000 hl. The machinery industry consumed 1,411,000 hl., mostly lubricants.

Installations of oil engines in manufacturing plants have grown from 27,811 hp. in 1930 to 82,410 hp. in 1936, the last pre-"incident" year. This increased to 164,228 hp. by the end of 1938.

Fischer Plant Has Test Run

The Fischer-Tropsch synthetic fuel plant of the Mitsui Mining Co., construction on which was started in 1937 at Omuda, Kyushu, has been partially completed, with test runs under way since the early part of June. Other Mitsui plants are going up at Takikawa and Rumoe, Hokkaido, at Amagasaki, near Osaka, and at Chinchow, Manchukuo. None of them will be ready for production before 1942, however. Japanese newspapers quote Department of Commerce and Industry officials as saying that Japan's synthetic fuel capacity is "second to none in the world except Germany."

Japanese Oil Imports Up

Japanese imports of unspecified "other oils, fats, waxes and manufactures thereof" during the first 3 months of 1940 amounted to 93 million yen, compared to 58.5 million and 60.5 million yen for the corresponding periods of 1939 and 1938. Imports under this classification are generally accepted by business men and economists as imports of mineral-oil products. It is believed that Japan's large imports of aviation gasoline early this year are mainly responsible for the record-breaking expenditure. There is probably no truth in the rumor that some of the shipments are ultimately reaching Germany since Japan is too anxious to improve its own stock position in the face of growing United States hostility to Nippon's policy of expansion. In fact, Japan is competing with Germany for Rumanian oil. Under a barter agreement signed earlier this year, Rumania is to supply approximately $2,000,000 worth of oil in return for Japanese manufactures.

England . .

Decrease in European Oil Exploration Caused by War

IMMEDIATE effect of the European war upon foreign petroleum exploration has been an abrupt curtailment of seismograph work and aerial photography, two of the methods used extensively in the preliminary examination of large areas. Exploration work which has reached the stage of test drilling, however, is being continued in many of the areas directly or indirectly involved in the European war.

Drilling, for instance, is continuing around 1,600 ft. in a test originally started by Gulf Exploration Co. (Great Britain) in the Cleveland Hills district of Yorkshire in England. The Gulf's drilling operation has been turned over to D'Arcy Exploration Co., wildcat drilling subsidiary of Anglo-Iranian Oil Co., Ltd., since outbreak of the war. Gulf has returned most of its American personnel to the United States.

There has been a limited extension of land covered by mining leases in Great Britain on the part of D'Arcy and Anglo-American Oil Co., subsidiary of Standard Oil Co. of New Jersey, retains about 2,720 sq. miles of mining leases, although none has been acquired since the war started. The exploration activity on about 11,500 sq. miles of Great Britain held under mining leases by D'Arcy, Anglo-American, Gulf and Steel Brothers & Co. has been reduced to a minimum since the war started as a measure in curtailing expenditures until the political future is more certain.

Gulf Oil Corp.'s subsidiary in Denmark has halted its geophysical exploration activity for the present and only a skeleton crew of nationals remains on the company pay roll in that country.

Geophysical activity in the Netherland East Indies, New Guinea and other sections of Oceania and the Far East has been reduced to immediate necessity for the reason that operating companies find the future too uncertain for more than essential expenditures for preliminary information. The drilling, maintenance and producing operations on previously conceived programs in the Netherland East Indies are continuing at approximately peacetime tempo. Most of the operations, however, are confined to previously proven territories and the higher expense of exploration work is being avoided as much as possible.

Germany . .

Reich Offers Subsidies For Engine Conversions

ANOTHER indication that Germany's petroleum-supply position is causing renewed concern was contained last week in radio and press reports from Berlin. The Reich Government is offering subsidies ranging from 1,000 marks ($400) to 600 marks ($240) for conversion of diesel-motored and gasoline-powered vehicles to wood-burning equipment. The move is being made, according to Berlin dispatches, in anticipation of a shortage of motor fuel when the war is ended. Germany, it was explained officially, will have a considerably enlarged demand for motor-powered vehicles, especially in agriculture, when peace is restored.

In order to meet the expected situation, a company has been organized under the supervision of Air Marshal Hermann Goering, who is master of the Reich's economic setup, to provide and distribute wood-burning equipment. One of the company's functions will be to establish and stock wood "filling stations." The details of converting wood into motor fuel have not been disclosed, but this system has been developed to a limited extent in Japan and more recently in Italy. In general, the method involves accumulation of gas generated in the combustion process.

New Zealand . .

New Zealand Company Continues Oil Search

NEW ZEALAND Petroleum Co., Ltd., which drilled a deep failure near Gisborne, is continuing its search in New Zealand. One test is now drilling at approximately 3,000 ft. in the middle part of the island and another, on the western side of the North Island, is drilling at 600 ft.

PROGRAMS AND MEETINGS

Kansas Geological Society Will Hold Annual Field Trip Aug. 26-Sept. 1

The Kansas Geological Society announces its fourteenth annual field conference to be held in the Black Hills of South Dakota, and the Hartville uplift, Laramie Mountains and Medicine Bow Range of Wyoming, August 26 to September 1. This conference is held with the cooperation of the University of Wyoming and the Nebraska Geological Survey.

The areas to be visited offer the best opportunity to study the rocks found in wells drilled on the Great Plains. One of the primary purposes of the trip will be to attempt to correlate the outcropping beds with the subsurface units encountered in drilling. Permo-Pennsylvanian and pre-Pennsylvanian beds will be studied in greatest detail. Outcrops ranging from pre-Cambrian to Tertiary will be visited and studied. Sufficient time for careful sampling will be allowed at each stop.

Dr. S. H. Knight, state geologist and head of the department of geology, University of Wyoming, will act as director of the conference. He will be assisted by H. D. Thomas, University of Wyoming; G. E. Condra, state geologist, and E. C. Reed, assistant state geologist, respectively, of Nebraska; E. P. Rothrock, state geologist of South Dakota, and J. J. Runner and A. K. Miller of the University of Iowa. These men are intimately acquainted with the geology of the area.

The conference will convene at Rapid City, S. D., Sunday evening, August 25, and proceed the following morning to the northern Black Hills. There the Whitewood-Deadwood problem and the Permo-Pennsylvanian beds will be studied.

August 27 and 28 will be devoted to a study of the section in the central and southern portion of the Black Hills, emphasizing the change in lithology of the beds from north to south. The absence of Ordovician beds will be noted.

The very interesting section of Permo-Pennsylvanian rocks in the Hartville uplift will occupy August 29 and 30. Correlations with the Kansas and Colorado sections will be ventured and the relationship of these beds to those in Central Wyoming as well as to the producing horizons of the Lance Creek field will be brought out. Pre-Pennsylvanian beds will not be neglected.

Two excellent sections south of Douglas will be visited August 31. In the afternoon, after visiting the Big Muddy oil field, the party will drive to Jacksons Canyon southwest of Casper for a most interesting study. Westward changes in sedimentation will be emphasized.

The final day, Sunday, September 1, will open with a stop at Alcova Dam, southwest of Casper. Thence the geologists will travel across the Seminoe Plateau and the Hanna basin, thence south and west to Walcott and Saratoga.

An invitational symposium on Permian problems will be conducted by the Permian subcommittee of the research committee of the American Association of Petroleum Geologists under the chairmanship of Rónald K. DeFord on Monday, September 2.

New A.P.I. Chapter to Be Formed at Wichita Falls

WICHITA FALLS, Tex.—Attempts to revive a chapter of the American Petroleum Institute were launched here last Saturday. R. P. Brouthertin, of Texas Co., Wichita Falls, representing L. A. Ogden, southwestern chairman of the A.P.I., presided and named four committees which will function prior to the first organization meeting to be held September 16. Committees named were: nominating, W. H. Collins, John Bell, Jo H. Cable, Walter Krog, and W. G. Palmer; constitutional, W. H. Rouzer Jr., W. B. Nicholson, and Earl Gray; program, H. B. Van Emden and J. M. Wanenmacher; and temporary membership, Gordon Stine, F. H. Dalling, Palmer, Krog, and Rouzer. The old chapter of the A.P.I. held its last meeting September 26, 1933. Efforts to revive were led by Jo Cable.

Chemical Society to Conduct Petroleum-Chemistry Forum

The Petroleum Division of the American Chemical Society has announced plans for a symposium on "Petroleum Chemistry's Contribution to the Automotive Field." This symposium is being organized as part of the society's convention, which is to be held in Detroit during the second week of September of this year. The plans are in the hands of a committee composed of T. A. Boyd, G. M. Maverick, E. C. Williams, and M. R. Fenske, chairman. It is expected that the papers to be presented will fall largely in five classes:

1. Petroleum as a source of automotive power—for automobiles, airplanes, trucks and tractors.

2. Petroleum as a lubricant—from the standpoint of physical properties, manufacturing operations and performance.

3. Petroleum as a special material for use in coatings, lacquers, finishes, plastics and such special products as are used in hydraulic drives and shock absorbers.

4. Petroleum on the road—asphalts, road oils and emulsifiers.

5. General papers discussing such subjects as the chemical constitution of petroleum, new reactions in petroleum chemistry, and advances in refining equipment.

The committee in charge is now soliciting papers from those interested. Because the symposium provides for a broad discussion of recent accomplishments and current problems in the petroleum and automotive fields, active participation is expected from a large number of research and development organizations.

Seminole A.P.I. Chapter Will Meet July 12

The Seminole chapter of the American Petroleum Institute will hold its next meeting at 8 p.m. July 12 in the Monterey clubroom at Seminole, Okla. The first regular monthly meeting was held June 21.

C. R. Clark, division geologist for the Gulf Oil Corp., discussed the geology of the Seminole field before a group of 120 men.

A talking movie, showing the processing of alloy steel, was shown through the courtesy of Bethlehem Supply Co.

West Central Texas Oil Men Meet at Brownwood

BROWNWOOD, Tex.—Oil men of this section gathered at Lake Brownwood State Park last Saturday for a meeting of the West Central Texas Oil and Gas Association. Speakers included Col. John Perkins, of Midland, Tex., and J. C. Hunter of Abilene. A directors meeting was held Saturday afternoon.

MAGNETIC STORM

TUCSON, Ariz., June 26.—Severe storm began June 24 at 9 p.m. and ended June 26 at 4 a.m. central standard time.

CALENDAR OF EVENTS

September

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, Spokane, Wash., September 3-5.

AMERICAN CHEMICAL SOCIETY, Detroit, Mich., September 9-13.

NATIONAL PETROLEUM ASSOCIATION, thirty-eighth annual meeting, Hotel Traymore, Atlantic City, N. J., September 18-20.

NATIONAL LUBRICATING GREASE INSTITUTE, annual convention, Stevens Hotel, Chicago, September 30-October 1.

October

NORTH AMERICAN GASOLINE TAX CONFERENCE, Whitley Hotel, Montgomery, Ala., October 3-5.

WESTERN PETROLEUM REFINERS ASSOCIATION, regional technical meeting, Wichita, Kans., October 4.

AMERICAN GAS ASSOCIATION, Atlantic City, N. J., October 7-10.

NATIONAL SAFETY CONGRESS, Stevens Hotel, Chicago, October 7-11.

AUTOMOBILE MANUFACTURERS ASSOCIATION, Auto Show, New York, October 12.

INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA, eleventh annual meeting, Dallas, Tex., October 16-18.

PETROLEUM DIVISION, A.I.M.E., October 24, 25 and 26, Tulsa.

WESTERN PETROLEUM REFINERS ASSOCIATION, regional technical meeting, Shreveport, La., October 25.

TEXAS MID-CONTINENT OIL AND GAS ASSOCIATION, annual convention, celebrating Texas oil's forty-fifth birthday, Fort Worth, Tex., October 21-November 2.

November

AMERICAN PETROLEUM INSTITUTE, twenty-first annual meeting, Stevens Hotel, Chicago, November 11-15.

1941

March

AMERICAN SOCIETY FOR TESTING MATERIALS, Hotel Mayflower, Washington, D. C., March 3-7.

April

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, twenty-sixth annual meeting, Rice Hotel, Houston, Tex., April 2, 3, and 4.

NATIONAL PETROLEUM ASSOCIATION, semi-annual meeting, Hotel Cleveland, Cleveland, Ohio, April 24-25.

June

AMERICAN SOCIETY FOR TESTING MATERIALS, forty-fourth annual meeting, Palmer House, Chicago, June 23-27.

Natural Gasoline

Liquefied-Petroleum-Gas Sales in California

Liquefied-petroleum-gas sales by California marketers increased 38.2 per cent in 1939, more than double the 17.5 per cent increase registered in 1938. A total of 48,567,000 gal. were sold in 1939, an increase over 1938 of 13,427,000 gal. Monthly data showing sales to consumers are not available but monthly production of liquefied gases, including that used in chemical plants or refining operations of the producing companies, but excluding that blended for the production of gasoline is shown in the monthly California petroleum statements. These data indicate that during the first 5 months of 1940 production increased 9,970,000 gal. over 1939 and amounted to 27,774,000 gal. While these figures are not an exact gage of the current sales to consumers, because they include company usage, it seems reasonable to assume that consumer sales in 1940 will show at least as great an increase as that shown by the 1939 sales.

LIQUEFIED-PETROLEUM-GAS SALES BY CALIFORNIA MARKETERS—1939

(Thousands of gallons)

Uses—	Propane	Propane-butane	Butane
Domestic	7,343	5,180	2,532
Gas manufacturing	....	2,478	4,772
Industrial fuel	362	1,258	28
Solvents and chemical manufacturing	....	....	....
Internal-combustion-engine fuel	186	18,771	5,091
All other uses	....	3	493
Total	7,891	27,690	12,916
Segregation of above total by method of transportation:			
Bulk shipments	346	27,476	12,876
Cylinder and drums	7,545	214	40
Exports	70	....	....
Total sales	7,961	27,690	12,916

California natural-gasoline plant operations in May were as follows:

	Gas treated (thou. cu. ft.)	Natural gasoline produced (gal.)
San Joaquin Valley:		
Belridge	3,072,651	1,640,790
Elk Hills	55,969	125,735
Kettleman Hills	7,145,773	10,681,782
Midway-Sunset	967,098	1,998,521
Mountain View	314,267	274,312
Miscellaneous	1,359,142	773,785
Coastal district:		
Elwood	324,162	446,215
Rincon	158,211	223,722
Santa Maria	158,131	474,512
Ventura Avenue	3,234,096	4,795,825
Miscellaneous	483,840	473,879
Los Angeles Basin:		
Brea-Olinda-Coyote	469,475	1,415,455
Dominguez	1,484,729	2,170,942
El Segundo	33,959	101,643
Huntington Beach	773,055	2,736,634
Inglewood	252,678	348,063
Long Beach	2,442,288	7,764,288
Montebello	2,654,219	1,822,992
Richfield	303,476	642,434
Rosecrans	1,076,371	1,291,416
Santa Fe Springs	1,346,397	4,741,666
Seal Beach	354,580	629,552
Torrance	279,633	829,053
Miscellaneous	1,147,843	2,209,175
Total (all fields)	29,892,043	48,712,391

Distribution

	Gallons	Gallons
Stocks beginning of month	2,867,962	
Production during month	48,712,391	
Delivered to refineries	....	48,206,073
Delivered to jobbers, brokers or blenders	....	432,659
Blended at plants for production of motor fuel	....	4,513
Losses	....	108,728
Stocks end of month	....	2,828,380
Total	51,580,353	51,580,353
Liquefied-petroleum-gas production	3,678,484 gal. =	87,583 bbl.
Motor-fuel production	5,590 gal. =	133 bbl.

Improved general conditions doubtless accounted for much of the gain but several other factors appear to have stimulated demand to an important degree. As one consideration, equipment dealers were exceptionally aggressive during 1939 and aided the market for liquefied gases through the sale of much new equipment. Heavy construction in isolated locations, such as the Shasta and Friant dams, created a very appreciable demand for liquefied gases for cooking and heating as well as for engine use. Also, the well-stabilized gasoline prices during the year helped the market for liquefied gases for use as internal-combustion-engine fuel.

Internal-combustion-engine fuel, by far constitutes the greatest use of liquefied petroleum gases in the Pacific Coast area. Sales for this purpose increased 7,370,000 gal. to a total of 24,048,000 gal. and the next largest use, "bottled gas" for domestic use, increased 4,074,000 gal. to 15,055,000 gal.

The data do not include (because they are not sold as such) liquefied gases used directly by the producer for fuel, polymerization, solvents, dewaxing, blending with gasoline, or as a raw material in chemical plants which are operated by liquefied-gas producers. A very large amount of liquefied gases is used in California for these purposes.

Louisiana Iron & Supply Buys South Arkansas Plant

SHREVEPORT, La.—Louisiana Iron & Supply Co. of this city recently purchased the Armstrong natural-gasoline plant and field gathering system of Arkansas Fuel Oil Co., located 2 miles west of El Dorado, Ark. The plant has a daily capacity of 5,000 gal. and is of the compression-absorption type. Location is in Section 31-17s-15w, Union County. Acquisition of this plant brings Louisiana Iron's total number of plants in South Arkansas to four, daily output of which is about 18,000 gal. Field office of the company is in El Dorado, with G. R. Perry in charge of the natural-gasoline department.

Large Recycling Plant Seems Assured for Cotton Valley

NEW ORLEANS, La.—Way was definitely cleared for construction in the Cotton Valley field, North Louisiana, of an $18,000,000 gas-recycling plant. Oil operators and land and royalty owners of the field met here on Monday with Conservation Commissioner B. A. Hardey, and 80 per cent reached an agreement on financial, unitization and other matters involved. The contemplated plant, it was explained, would extract 10,000 bbl. of distillate or gasoline a day from 150,000,000 cu. ft. of wet gas. Plant operations will be handled by an engineer's committee, composed of company engineers in the field. Requests for tentative bids for construction of the plant have been asked. This is the largest unitized recycling project ever undertaken.

Several key wells will be drilled near the center of the structure, which covers some 12,000 acres, and gas will be recycled from the Bodcaw D and other deeper gas-distillate zones. Major operators in the field include Oliphant Oil Co., North American Oil Co., Hunt Oil Co., Ohio Oil Co., Magnolia Petroleum Co., United Gas Pipe Line Co. and Stanolind Oil & Gas Co.

Pipe-Line Activity

Build Short Lines and Storage Tanks for Illinois Fields

OLNEY, Ill.—Three 55,000-bbl. storage tanks have been erected as part of a new tank farm to serve the Illinois Pipe Line Co.'s extended system from the Storms pool to Bridgeport. The farm is located near Centerville.

Engine and pump foundations are ready. Construction of the pipe line was expected to start within the week. Another line will extend from the station to Enfield in White County.

E. C. Welch, general superintendent of the company, is supervising the work, and A. B. Johnson, chief engineer, is handling all construction details.

The Sun Oil Co. has started work on a line to run from its Greathouse and Garner leases, southeast of Crossville, to the Centerville pumping station.

Construction on the Superior Oil Co.'s line from Ribyre Island to a river terminal on the Ohio River at Mount Vernon, Ind., was started last week. The contract for the construction was let to Anderson Brothers Co.

Cast-Iron Pipe Specifications Step Toward Standardization

NEW YORK.—As a step in its program to develop specifications for cast-iron pipe, the American Standards Association has completed three new standards. These include a manual for computing the strength and thickness of cast-iron pipe, specifications for cast-iron pit-cast pipe for water or other liquids, and specifications for cement-mortar lining for cast-iron pipe and fittings. In addition, the committee is preparing specifications covering cast-iron pit-cast pipe for gas, and specifications for special types of pipe, bell and spigot fittings, flanged pipe and fittings, coatings, and linings.

The new standards are available from the American Standards Association, as follows: The American Recommended Practice Manual for the Computation of Strength and Thickness of Cast-Iron Pipe (A21.1-1939), 40 cents; American Standard Specifications for Cast-Iron Pit-Cast Pipe for Water or Other Liquids (A21.2-1939), 20 cents; American Standard Specifications for Cement-Mortar Lining for Cast-Iron Pipe and Fittings (A21.4-1939), 15 cents.

Amend Pipe-Line-Construction Petition to Include Asheville

WASHINGTON, D. C., June 28.—The Tennessee Gas & Transmission Co., with principal offices at Chattanooga, Tenn., has filed with the Federal Power Commission a petition to amend its application for the construction and operation of a natural-gas pipe line from northern Louisiana to Knoxville, Tenn., so as to include Asheville, N. C., and vicinity in the proposed service area.

The amended petition alleges that the construction will materially aid in carrying forward the program of national defense by providing cheap and efficient fuel essential for industrial processes in an area not now served with natural gas and in an area which is developing rapidly industrially.

The commission today ordered that a public hearing be held on the application and the petition to amend as filed by the Tennessee Gas & Transmission Co., the hearing to commence at 10 o'clock a.m. on September 4, 1940, in the Hurley-Wright Building, 1800 Pennsylvania Avenue, N. W., Washington, D. C.

Northern Natural to Lay Gas Line to Ames, Iowa

DES MOINES, Iowa.—The Iowa Commerce Commission has authorized the Northern Natural Gas Co. to construct a feeder line from Ogden, Iowa, to Ames, Iowa. The line also will serve Boone. The line will be constructed of 10-in. pipe and will be about 20 miles long. It will connect with the company's main line at Ogden. Construction is to be started this week.

Refinery Expansion

Catalysis of Petroleum Discussed By Industrial Authorities

CHICAGO.—Catalysis, the newest phase of chemistry developed in the petroleum industry and which is likely to play a prominent part in mobilizing American industry for national defense, is the subject of an intensive summer course at Armour Institute of Technology. The course is now in progress and will continue through the first week of September.

This course is of unusual and timely interest due to the fact that by means of catalytic reactions, gasoline

DR. J. C. MORRELL *DR. V. I. KOMAREWSKY*

of highest quality, including superaviation fuel, synthetic rubber, and toluene—raw material for the manufacture of T.N.T.—can be produced in enormous quantities from petroleum.

With the consent and approval of Universal Oil Products Co., a leader in the development of catalytic and other refining processes, Dr. Jacque C. Morrell, associate director of research and an inventor of note, will teach one phase of the course. Dr. V. I. Komarewsky, also a member of Universal's research staff and a professor at Armour Institute, will also teach in this course.

Other companies and institutions are making available the services of men equally eminent in their fields to teach courses in other branches of science and engineering.

Inasmuch as the students in the summer school are picked men—practicing chemists and engineers, postgraduate students and teachers—the instruction is to be so highly concentrated that it is hoped to condense into the 12 weeks as much practical work as takes a year or more in the usual college course.

Professor Komarewsky, who had a part in the development of the U.O.P. catalytic polymerization and other Universal processes, will teach the theoretical side of catalysis and the main catalytic reactions in organic chemistry. Actual preparation of catalysts and the performance of catalytic reactions will be carried on in the laboratory.

Dr. Morrell will draw upon his experience in discussing the practical application of catalysis in the oil industry, particularly new methods of preparing high antiknock motor fuels, synthetic rubber, and toluene, of which he is the coinventor, and will demonstrate these reactions in laboratory experiments.

The following topics, among others, will be presented by Dr. Morrell: Thermal cracking, catalytic cracking, catalytic hydrogenation, dehydrogenation and cyclization, catalytic polymerization, catalytic alkylation, synthetic petroleum by the Fischer-Tropsch process, destructive hydrogenation processes and synthetic hydrocarbons generally, including lubricants, resins, and pure compounds.

May California Gasoline Sales Approximate May 1939

SACRAMENTO, Calif.—Gasoline sales throughout California during May were approximately the same as those of the same month for the previous year, the state Board of Equalization reported last week. Based on the distribution of 157,514,167 gal. of gasoline, the board assessed a total tax of $4,725,425. This represented a gain of $22,874, or 0.49 per cent over May 1939. This total also was slightly higher than the April tax which amounted to $4,693,037. The May report was the fourteenth consecutive month for which the gasoline-tax income was greater than for the same months of preceding years.

Twelve oil companies reporting the highest sales, resale of gasoline previously taxed and exempt sales to the federal Government or in interstate or foreign commerce accounting for differences between total sales and taxable sales, were as follows:

Name—	Gallons actually sold	Net taxable gallonage
General Petroleum Corp.	29,214,866	14,088,614
Gilmore Oil Co.	6,617,488	30,051
Hancock Oil Co.	6,215,377	1,159,426
Mohawk Petroleum Corp.	5,364,790	3,938,711
Richfield Oil Corp.	18,724,966	17,996,988
Shell Oil Co., Inc.	22,768,468	18,619,218
Signal Oil Co.	5,974,997	700
Standard Oil Co. of Calif.	61,120,522	25,008,283
Texas Co.	8,805,786	8,224,933
Tide Water Associated Oil Co.	25,342,946	12,680,046
Union Oil Co.	18,153,671	14,124,128
Wilshire Oil Co., Inc.	9,008,386	8,624,804

Canadian Gasoline Figures Show Gain Over 1939

OTTAWA, Ont.—Gasoline sales in Canada in February totaled 41,690,000 gal. compared with 33,452,000 gal. in the same month last year; while sales for the 2 months of 1940 were 86,463,000 gal. against 73,530,000 gal. in the corresponding 1939 period. Increases were recorded in all Canadian provinces except Prince Edward Island.

Imports of gasoline lighter than 0.8236 gravity were 657,612 gal., valued at $65,839, in March against 1,577,126 gal. valued at $138,001 in February. Imports of gasoline lighter than 0.6690 gravity increased from 1,599,223 gal., valued at $108,603, in February to 131,056 gal. at $1,822,807 in March. Exports of gasoline and naphtha dropped from 418,254 gal., worth $40,524, in February to 2,150 gal. at $304 in March.

Contracts Let for Cosden Building at Big Spring

FORT WORTH, Tex.—Contracts totaling $22,000 have been awarded by the Cosden Petroleum Corp. for construction of an office building at its refinery east of Big Spring, Tex. Work of building and equipping the 100 by 45 ft. building is to be completed within 45 working days. Cosden will move its headquarters from here to Big Spring when the building is complete.

Bradford Refining May Reopen I's Pennsylvania Refinery

BRADFORD, Pa.—Bradford Oil Refining Co. has notified producers in this area that it will resume operation of its refinery here on July 5 if it can obtain sufficient crude oil at $2 per barrel. The refinery, of 2,500-bbl. capacity, was recently shut down, the company claiming that it could not operate the plant at a profit due to low refined-oil prices.

Continental Lets Contract For New Refinery Office

SHREVEPORT, La.—The Continental Oil Co. has let contract to George P. O'Rourke Construction Co., Dallas, Tex., for erection of office and housing facilities at the company's new refinery at Westlake, near Lake Charles, La.

Natural-Gas News

Arkansas Court Upholds Permit for Gas Line

LITTLE ROCK, Ark.—The Supreme Court on Monday upheld issuance by the state Utilities Commission of a permit to the Louisiana-Nevada Transit Co. of Ada, Okla., to distribute gas in Southwest Arkansas as a competitor of the Arkansas-Louisiana Gas Co. Ruling against the Arkansas-Louisiana on all issues, the decision sustained a December order of the commission which authorized the Oklahoma company, headed by W. A. Delaney, Jr., to build a $440,000 pipe line from the Cotton Valley gas field in North Louisiana to serve the Ideal Cement Co. plant at Okay, the Hope municipal light plant and the Hope Brick works, both at Hope, Ark.

Gas Revenues Continue Upward Trend in April

Manufactured and natural-gas utility revenues amounted to $75,470,300 in April 1940, as compared with $72,172,800 for the corresponding month of 1939, an increase of 4.6 per cent, it was announced today by Paul Ryan, chief statistician of the American Gas Association.

The manufactured-gas industry reported revenues of $32,159,100 for the month, an increase of 2.3 per cent from the same month of the preceding year. The natural-gas utilities reported revenues of $43,311,200, or 6.3 per cent more than for April 1939.

Total sales of manufactured gas for the month were 34,181,500,000 cu. ft., an increase of 6.3 per cent. Natural-gas utility sales for the month amounted to 121,805,400,000 cu. ft., an increase of 6.3 per cent.

Manufactured-gas sales for domestic uses, such as cooking, water heating, refrigeration, etc., were 0.9 per cent less than for April 1939. Sales for house-heating purposes increased 19.5 per cent, while commercial uses gained 5.5 per cent, and industrial uses increased 14.6 per cent.

Natural-gas sales for domestic purposes showed an increase of 8.6 per cent for the month, while industrial sales gained 7.9 per cent.

Vegreville Gas-Pipe-Line Construction Started

VEGREVILLE, Alta.—Vegreville Gas Co. has been incorporated with head offices at Edmonton and capitalization of 100,000 no par shares to handle the distribution of gas in Vegreville. Gas will be secured from the Viking field. Construction of a transmission line to link Vegreville with the Northwestern Utilities main line near Holden has been commenced and will be completed by August 15.

Canadian Gas Production Increased in March

OTTAWA, Ont.—Natural-gas production from all Canadian fields in March totaled 3,862,351,000 cu. ft. against 3,722,181,000 cu. ft. in the same month last year. For the 3 months of 1940 the output was 13,017,721,000 cu. ft., an increase of 8.9 per cent over the 11,955,303,000 cu. ft. in the same period last year. Imports of mixed (natural and artificial) gas into Canada in March totaled 10,959,000 cu. ft. valued at $7,916 against 12,292,000 cu. ft. valued at $7,734 in March 1939.

This Company *PIONEERED* Soil Analysis

A Direct Oil Prospecting Method

The Geological Scientific Service Company pioneered the science of Soil Analysis as related to oil and gas exploration. Soil Analysis represents a great advance in oil prospecting methods—for it is the first direct exploration method—obtaining its significant indications not from geological structure alone, but from the petroleum itself. Geology locates the favorable traps for petroleum; soil analysis then offers *actual chemical evidence* to show that the trap does or does not contain petroleum.

As proof of the great need for a direct exploration method, reference is made to the recently published figures on the record of wildcatting in 1939 (June, 1940, A.A.P.G. Bulletin). Here it is shown that out of 2589 wildcat or exploratory holes drilled during that period, only 10.43% were producers. Only one out of 10! Out of 1663 wells drilled with the benefit of technical advice (geology or geophysics) 13% were successful and of the 926 drilled without the aid of technical advice, only 6% were producers.

It should be pointed out, however, that the accuracy record of the technical advice in the mapping of structure was far greater than the 13% of actual producers. This is because many of the structural traps, properly mapped by geology or geophysics, were found barren of petroleum when drilled. They were scientific successes and economic failures! In Soil Analysis, a scientific success must be an economic success as well; because in order for geochemistry to be accurate, a producer must result.

Soil Analysis is assuming a continually growing place in the exploration picture as the first successful *direct* exploration method—obtaining its significant anomalies from the petroleum itself. Past record from over 100 wildcat wells drilled on prospects which this company surveyed by Soil Analysis as part of the exploration problem, shows that this method properly used will afford both chemical and economical successes several hundred percent greater than the 13% figure of 1939.

We will be glad to give you the facts in detail on this new epochal exploration method.

GEOLOGICAL SCIENTIFIC SERVICE COMPANY, INC.

Robert O. Smith, *President.*

Sinclair Bldg., Fort Worth, Texas

The PIONEER in Chemical Prospecting

Through use of more efficient heating and treating equipment, as well as exercising precautions to prevent firm emulsions being formed, many operators are obtaining better separation of oil and water emulsions. This large flow-line treating plant is in use in the Woodlawn field near Lake Charles, La. Wash water is continuously circulated from the heater to the gun-barrel treating tank

ENGINEERING & OPERATION

JULY 4, 1940

In This Section

HIGH-PRESSURE RECYCLING PLANT OPERATING AT AGUA DULCE
By Harry Simons ..... Page 30
Four recycling plants are now in operation at the Agua Dulce field, Gulf Coast Texas, the most recent of which is described here. Pressures of 2,200 lb. are required for reinjecting the gas into the pay, gas being taken from 10 wells and returned to 2 wells.

PLANT EXCHANGER TRANSFER RATES
By W. L. Nelson ..... Page 32
Data given show that resistance to heat flow may be a more important factor in heat transfer than any other variable, including even viscosity and velocity.

ANALYSIS OF SOME FACTORS INVOLVED IN CHEMICAL PROSPECTING
By W. V. Howard ..... Page 33
In this, first of two articles, our present knowledge of pertinent theoretical data on geochemical prospecting is summarized and underlying theories discussed.

FIRST CALIFORNIA CALCINING UNIT COMPLETED AT WILMINGTON
By L. P. Stockman ..... Page 36
A new plant that will convert petroleum coke into almost pure carbon, with a recovery of 85 per cent, has been completed at Wilmington, Calif., the first on the Pacific Coast.

DIRECTIONAL DRILLING, SURVEYING, AND POLAR CORE ORIENTATION
By G. L. Kothny ..... Page 40
Techniques used to obtain data necessary in well surveying, the manner in which the information is applied and the application of polar core orientation are described in detail.

SUGGESTED FIELD PRACTICES—USE OF SMALLER OIL-WELL PUMPS
By T. P. Sanders ..... Page 45
Many wells are inefficiently operated due to overlarge pumps being used. Here, factors that aid in the selection of proper size pumps are discussed.

OPERATING IDEAS ..... Page 35

SAFETY—HANDLING DRILL PIPE REQUIRES CARE ..... Page 39

High-Pressure Recycling Plant Operating at Agua Dulce

By HARRY F. SIMONS

THE Agua Dulce field in southwestern Nueces County, Texas, has recently become one of the more important recycling centers in the Gulf Coast area, with four plants in operation at the present time and a fifth under construction. Most recent installation to go on stream is the high-pressure plant of the Lockhart Oil Co. of Texas which has a capacity of 25,000,000 cu. ft. daily. Yield from the plant is approximately 30,000 gal. of finished products daily with the dry gas being injected into the producing formation.

Production over the Agua Dulce field comes from five different sands although the Lockhart plant is taking gas from and returning gas to only one horizon, the Comstock zone at approximately 5,200 ft. Production elsewhere in the field is obtained from the Heterostegina, the Marginula and Frio formations. At the present time there are 66 wells in the field and production, most of which is distillate, averages around 2,000 bbl. daily.

Gas production from 10 wells is connected to the Lockhart plant and after it is stripped of its fluid content it is returned to two wells where it is injected into the sand. The gathering system consists of 6-in. mains with 4-in. laterals while the return lines include a 4-in. line and a combination 6 and 5-in. line; the return lines are equipped with double offset expansion loops. The pressure on the gathering lines is 1,450 lb. per sq. in. The christmas trees for both the producing and input wells are identical with both designed to take care of the maximum expansion of the well casing and the connecting piping.

Production of gas from the individual wells varies from 2,000,000 to 10,000,000 cu. ft. daily with the total daily average production ranging from 20,000,000 to 30,000,000 cu. ft. There is some discussion as to the conditions existing in the reservoir with many believing that the production exists as a gas in the formation. By reinjecting the gas after it has been stripped of its gasoline and distillate, the reservoir pressure can be maintained so advantage can be taken of the retrograde condensation. Over a long period of time the amount of condensate contained in the produced gas will gradually decline to the point where only dry gas will be produced. When this point is reached the field will be depleted as far as the distillate production is concerned although the reservoir will still contain dry commercial gas.

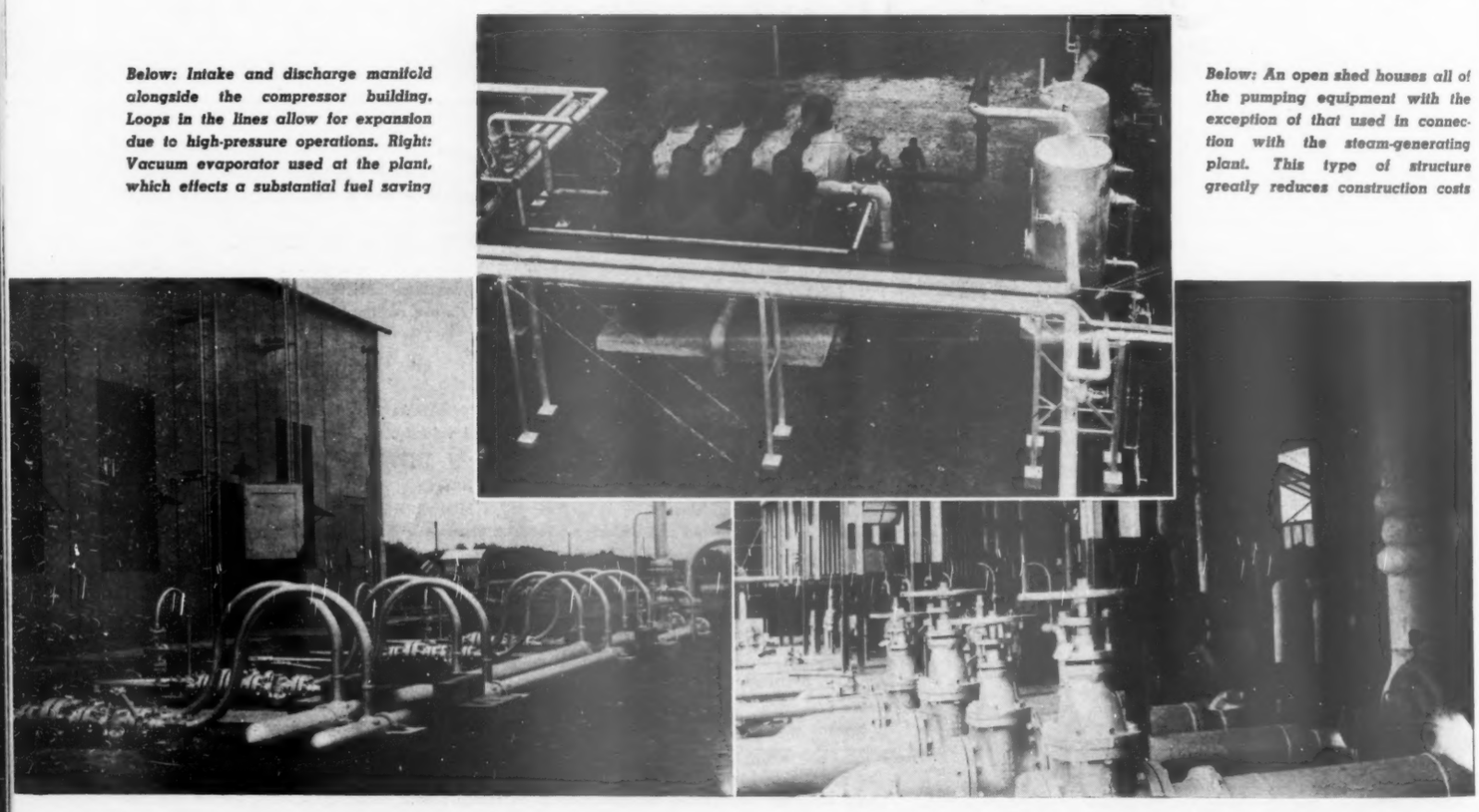
The design of the plant is such that rich gas containing from 0.5 to 1.5 gal. per 1,000 cu. ft. is stripped of its fluid by scrubbers and by the high-pressure absorber to the point where it contains approximately 0.0032 gal. per 1,000 cu. ft. by charcoal test.

The dry gas is then compressed in two 600-hp. angle compressors, the pressure being increased from 1,200 to 2,200 lb. per sq. in. for injection into the sand.

The finished products from the plant can be adjusted as desired although at the present time it is making mostly motor gasoline and absorption oil (Kerodistillate). The gasoline manufactured is in the 63-68 octane range. The plant can also make butane although at the present time butane is produced only incidentally and is used for fuel gas.

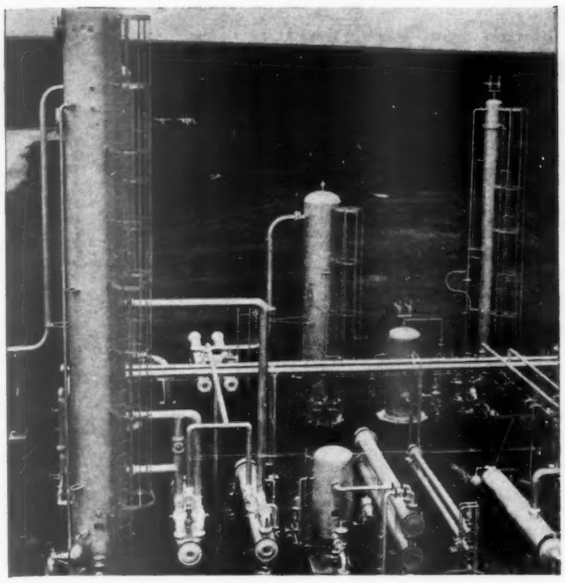
Gas coming into the plant first passes through the scrubbers and approximately 40 per cent of the plant production is obtained at this point. From the scrubbers the gas goes into coolers where chilled water reduces the temperature from 88° to 68° F. before it is introduced into the high-pressure absorber; cooling below 68° F. would result in the forming of a hydrate. The high-pressure absorber has a counter-stream of absorption oil and operates at 1,200 lb. per sq. in. pressure. The residue gas from the absorber goes to the intake manifold and into the compressors where it is boosted from a pressure of 1,200 to 2,200 lb. per sq. in. The compressor used is a single-stage, six-cylinder, 600-hp. angle type which operates on the residue gas. The compressors and the engines are equipped with all modern devices for insuring safe operation.

The distillate oil from the plant-intake scrubber and from the high-pressure absorber is carried to the cold-oil vent tank where the pressure is reduced from 1,200 lb. per sq. in. to about 250 lb. per sq. in. Gas liberated in the cold-oil vent



Below: Intake and discharge manifold alongside the compressor building. Loops in the lines allow for expansion due to high-pressure operations. Right: Vacuum evaporator used at the plant, which effects a substantial fuel saving

Below: An open shed houses all of the pumping equipment with the exception of that used in connection with the steam-generating plant. This type of structure greatly reduces construction costs



High-pressure absorption equipment, still and heat-exchanging equipment used on the recently completed recycling project

tank is run through a reabsorber and from reabsorber to plant fuel. The oil from the cold-oil vent tank and the reabsorber goes to a heat exchanger and then into the hot-oil vent tank after which it is passed through a preheater and then into the still. The distillate is heated to 280° to 290° before it reaches the hot-oil vent tank and the vapors from this tank are cooled and passed through the reabsorber. As the still temperature is between 360° to 378° the distillate is heated to approximately that point before it enters the still; operating pressure of the still is 42 lb. per sq. in.

Conditioning Absorption Oil

The noncondensable vapors from the still condenser are taken to a recompressor and discharged directly to the stabilizer column. The lean oil leaving the bottom of the still goes through a heat exchanger into the cooling tower and then into the lean-oil surge tank where it is picked up for recirculation over the absorber and reabsorber. The plant is recovering a plethora of absorption oil from the gas, and the excess oil is withdrawn from the system and sold as a by-product.

Operating in conjunction with the main still is an absorption oil-purifying still. This unit operates at a pressure of a few ounces above that of the main still to which it is connected. The agitation steam, which normally enters the main still, is diverted and passes into the purifying unit where it evaporates the lighter fractions of the oil contained therein. This steam, saturated with oil vapors, then flows into the main still where it performs its stripping action there in the usual way. Only a small portion of plant oil circulation passes through the oil-purifying equipment. The raw oil from the plant system is charged automatically to the purifying unit by a liquid-level controller. The raw stream is withdrawn from the rich-oil stream just before it enters the rich-oil preheater; at this point the oil is relatively hot and is under sufficient pressure to flow into the purifying unit.

Steam for the plant requirements and for pumping oil and engine-jacket water is obtained from four 127-hp. oil-field-type boilers which are equipped with automatic controls on the water level and steam-pressure lines. In addition the boilers are mounted on steel foundations protected by fire brick; the barrels, domes and fireboxes are thoroughly insulated against heat losses by steel-jacketed insulation suitable for outdoor installation.

Another unique feature is the steam-jet refrigeration unit which utilizes the exhaust steam to cool the water used in the chilling unit where the temperature of the wet gas is chilled preparatory to its entry into the absorber. The steam-jet refrigeration unit effects several economies simultaneously, the exhaust steam being condensed while the chilling water is being cooled, thus reducing the amount of make-up water and the size of the cooling towers required. The water supply at the plant requires treatment and savings in this direction affect plant operating costs; the water is obtained from a drilled well.

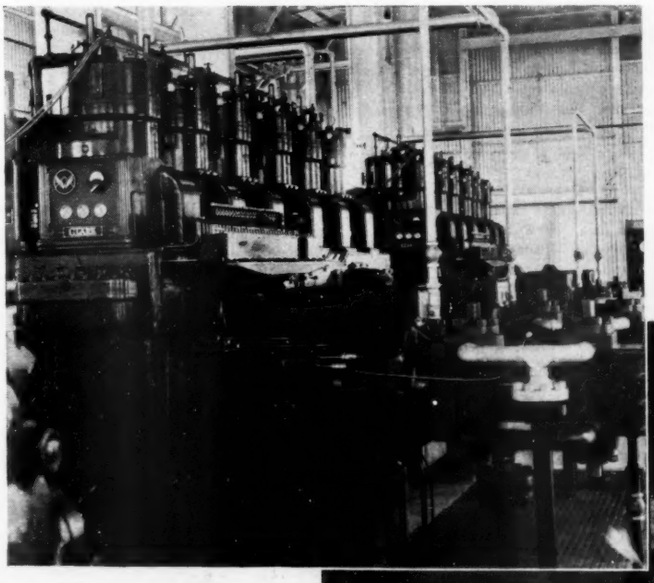
The residue gas from the reabsorber is used for plant fuel. The residue gas also has sufficient pressure and volume to be used for jetting the water from the water well which supplies the plant and for jetting the water over the cooling tower.

Buildings at the plant include the modern office building and laboratory where gas samples and finished products are analyzed, the compressor building which houses the two angle-type compressors and one single-cylinder horizontal-type compressor, process pump house, boiler-feed pump house and a warehouse which also includes an employes' dressing room. All of the buildings have concrete foundations and floors and have structural-steel frames covered with sheet metal.

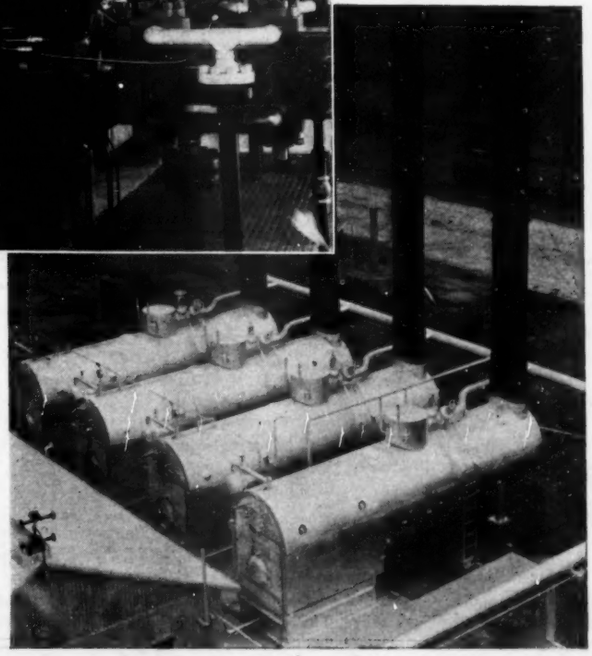
The process pump house is open on one side, facilitating the operation of the plant as well as adding to the comfort in the warm Gulf Coast climate. The building contains pumps for transferring the raw and finished products, still reflux, stabilizer reflux, stabilizer charge, the handling of the absorption oil, one large high-pressure duplex pump for circulating the absorption oil to the high-pressure absorber and two low-pressure pumps for pumping the absorption oil to and from the reabsorber. The recording and control instruments are located on a panel in the process pump house.

The boiler pump house contains a pair of 7½ by 4½ by 10-in. boiler-feed pumps for pumping the feed water from the condensate receiver into the boilers and a pair of 7½ by 5 by 6-in. pumps for pumping the low-pressure exhaust-steam condensate into the condensate receiver. There are also three 4½ by 3¾ by 4-in. duplex pumps for charging the raw water through the water treater and supplying water to the fire hydrants.

The plant is equipped with all of the modern safety devices such as the emergency shutdown system which may be operated from a number of points located about the plant, safety liquid-level controllers on the compressor intake scrubbers, and pressure-relief valves on all the towers, boilers, compressor discharges and storage tanks. The boiler high and low-level water alarms are connected to electric horns so located that they can be heard from any part of the plant.



Below: Battery of four boilers at the new Lockhart Oil Co. of Texas plant. The boilers are set on concrete and steel foundations with special steel-jacketed insulation used for reducing heat losses



Above: Two angle-type compressors used for boosting pressure of the gas before its reinjection into the 5,200-ft. Comstock zone. Two input wells are used, the compressors taking suction at 1,200 lb. and increasing the pressure to 2,200 lb.

Plant Exchanger Transfer Rates

By W. L. NELSON

THE magnitude of the loss in heat transfer rate that is caused by dirt, corrosion scale, etc., appears to be underestimated by some authorities[1 2] and ignored completely by others. Table 1, entitled "Data on Commercial Exchangers," shows clearly that the resistance to heat flow may be a more important factor in heat transfer than any other variable including even viscosity and velocity. The exchangers listed in Table 1 were being used in the customary manner—without regular cleaning and with fluids of average cleanliness, and yet the fouling factors (1,000 times the fouling resistance) are double and in some instances four times greater than the factors normally recommended. Perhaps the discrepancy occurs because such fouling factors as have been published[1] are minimum ones and are not applicable to the normal, somewhat careless maintenance of heat-exchanger equipment in most refineries. Another study[3] of the fouling of exchangers indicates much the same results as those in Table 1.

In reality, only three definite statements of fouling factors are available in the literature—The Standards of the Heat Exchanger Institute,[1] "Petroleum Refinery Engineering,"[4] and a paper by W. A. Samans.[5] The factors given by the Heat Exchange Institute appear to apply only to exchangers which are cleaned at regular intervals and for stocks that are free from dirt or noticeable corrosive action. The factors from this source are all lower than those found in the tests outlined in Table 1.

Plant Conditions

The oil stocks were not abnormally corrosive, the sulfur content of the crude oil was less than 0.3 per cent, and the brine content was less than that allowed by pipe-line companies. The water was somewhat hard, containing 2.3 grains of calcium carbonate and 8.3 grains of calcium sulfide per gallon. In addition, the water contained some sediment which could have been removed by simple filters or screens. The submerged tube bundles were attacked rapidly by acid and sulfide corrosion but other parts of the equipment did not suffer much corrosion. The equipment was not cleaned except upon shutdown and hence an accumulation of dirt, corrosion scale, etc., occurred between cleanings. In some instances the tube bundles were nearly plugged with debris. However, the above situation is not abnormal, and in fact is about the same treatment that most heat-exchange equipment usually receives.

Without recourse to computations, the fouling factors for such conditions would be somewhat as follows:

	Pet. Refinery Engineering	Heat Exchange Institute	Equipment in Table 1
Crude oil, clean	1-3	2-6 up	2
Distilled stocks	1-8	3 up	3-6
Vapors, corrosive	11 up	3 up	10-15
Condensates, corrosive	7-12	....	7-8
Water-submerged units	20-30	....	23
Water, inside tubes	8-16	3-8 up	10-15

The transfer rates shown in Table 1 were computed by using the fouling factors shown in the first column of this tabulation and by the film transfer rates given in Petroleum Refinery Engineering. The percentage errors seem large but it should be recalled that much greater errors would have been encountered had the fouling been neglected. Most exchanger manufacturers would have recommended much higher rates of heat transfer than those found in Table 1.

Fouling Factors

In connection with the selection of fouling factors it is wise to think of the operation of the exchangers in two stages. The first of these may consist of the operation immediately after the exchangers are installed or immediately after they are cleaned. In this stage the somewhat low fouling factors of the Heat Exchange Institute are in force, and acceptance tests runs are usually conducted during this stage of operation. After this stage, the equipment settles down to a long-time operation during which dirt accumulates and little is done by most refiners toward removing the dirt. Thus, the second stage may be considered in most instances as normal plant operation.

References

1. Standards of Heat Exchange Institute, tubular exchange section, 90 West Forty-second Street, New York, 1937.
2. McAdams, W. H., "Heat Transmission," McGraw-Hill Book Co., Inc., New York.
3. Nelson, W. L., "Study of Heat Transfer Rates in Commercial Exchangers, The Oil and Gas Journal, p. 40, January 19, 1940.
4. W. L. Nelson, pp. 384-89, McGraw-Hill Book Co., Inc., New York (1936).
5. Samans, W. A., Am. Soc. of Mech. Engrs., May 1933 meeting.

Nomenclature of Chemical And Hydrocarbon Names

NOW that the refining industry is becoming a manufacturer of pure organic hydrocarbons and compounds, the need of a consistent system of naming organic compounds is more important than ever before. The latest studies of such problems are available from the American Chemical Society, Mills Building, Washington, D. C., for a small charge. These are:

Crane, E. J.—The Standardization of Chemical Nomenclature, J. of Chem. Education, Vol. 8, No. 7, July 1931.

Patterson, A. M.—Definitive Report of the Commission on the Reform of the Nomenclature of Organic Chemistry, J. of Am. Chem. Soc. 55, 3905 (1933).

Crane, E. J.—The Pronunciation of Chemical Words, News Edition, Ind. Eng. Chem., Vol. 12, No. 10, p. 202, May 20, 1934.

Although research and development activity in the petroleum industry reaches into all types of organic compounds, the main interest centers about the nomenclature of the hydrocarbons and sulfur compounds. Parts of the proposed naming system are as follows:

Hydrocarbons.

Alkanes (paraffins and isoparaffins) ending in *ane*, as methane, propane, and nonane.

Alkenes and alkadienes (unsaturated) ending in *ene*, as propene, octene, and butadiene.

Alkynes (triple bonded) ending in *yne*, as propyne, heptyne, and even ethyne for ethylene.

Cycloalkanes (saturated monocyclics) with prefix *cyclo*, as cyclobutane and cyclohexane.

Cycloalkenes (unsaturated monocyclics) as cyclohexene or cyclobutadiene.

Aromatics, ending in *ene* (not *ol*) as benzene, xylene, etc.

Sulfur compounds:

Sulfur alcohols (mercaptans) ending in *thiole*, as methanethiole (methyl mercaptan) or benzenethiole.

Sulfides (double) prefix of *thio*, as methylthiopropane $CH_3SC_3H_7$, but methyl sulfide rather than methylthiomethane.

The above is not an attempt to abstract the nomenclature system because the system is in itself an abstract and cannot be abbreviated. A more systematic method of naming such as the one outlined in the above articles will go far in clarifying discussions of the complicated and numerous chemical compounds.

TABLE 1—DATA ON COMMERCIAL EXCHANGERS

	Name of equipment													
Type of equipment	Reflux exchanger Tubular	Para. dist. exchanger Tubular	Condenser exchanger Tubular	Light gaso. condenser Submerged	Pressure dist. condenser Submerged	Gaso. con. denser Submerged	Casing-head condenser Tubular	Gas-oil condenser Tubular	Pressure dist. cooler Tubular	Light naphtha cooler Tubular	Heavy naphtha cooler Tubular	Para. dist. cooler Tubular	Kerosene cooler Tubular	Gaso. line cooler Tubular
Units of equipment in series	2	1	2	1	1	1	2	2	1	1	2	1	1	1
Inside of tubes—														
Material	Crude	Crude	Crude	Gaso. & steam	Gaso. steam & oil	Gaso. and steam	Water	Water	Water	Water	Water	Water	Water	Water
Temperature, °F., low	142	207	31	110	102	114	50	49	64	49	50	50	50	50
Temperature., °F., high	207	258	141	253	365	146	110	90	66	90	70	78	78	57
Passes	4	4	6	4	4	4	6	5	4	2	2	4	4	4
Velocity (ft./sec.)	5.8	5.8	3.6	...	...	...	2.3	6.7	8.8	0.4	1.2	1.25	2.0	4.0
Film transfer rate	125	300	120	150	43	150	380	700	700	160	240	260	350	560
Fouling factor assigned	2	2	2	12	15	12	12	12	12	12	12	12	12	12
Outside of tubes—														
Material	Gas oil	Para. dist.	Gaso.	Water	Water	Water	Gaso. & gas	Gas, oil & steam	Gaso., gas & wtr.	Naphtha	Naphtha	Para. dist.	Kerosene	Gaso. & water
Temperature, °F., low	206	262	146	66	66	57	81	106	76	86	70	92	121	74
Temperature, °F., high	530	625	182	87	87	74	221	475	102	237	244	252	339	114
Passes	2	2	2	...	...	...	2	....	1	2	2	2	2	1
Type of baffle	Orifice	Orifice	...	...	...	...	...	...	Orifice	Orifice	Orifice	Orifice	Orifice	Orifice
Velocity*	0.26	0.2	...	...	...	...	...	...	§21.7	0.25	0.23	0.18	0.23	0.54
Film transfer rate	47	47	150	180	180	180	170	‡170	†1,000	73	51	30	50	95
Fouling factor assigned	2	?	7	23	23	23	5	4	8	5	4	¶8	5	5
Mean temperature difference, °F.	64	164	70	92	†43	65	63	172	21	80	70	93	145	38
Overall transfer rate—														
Clean (computed)	34.1	40.6	45.2	82.0	34.8	82.0	117.0	170.0	417.0	50.0	42.1	26.9	43.6	81.5
Computed	30.0	34.9	32.1	20.7	15.0	19.9	39.2	42.9	44.6	27.2	25.2	17.5	25.0	34.2
Actual	27.0	43.0	35.5	17.5	16.5	16.8	36.4	48.0	39.4	25.5	17.8	20.0	21.2	37.8
Per cent error	11.1	—18.8	—9.6	18.2	—9.1	18.4	7.7	—10.6	13.2	6.7	41.6	—12.5	17.9	—9.5
Fouling factor, from tests	8.7	—1.4	6.1	44.9	31.9	47.3	19.0	14.9	23.0	19.3	32.4	12.9	24.2	14.2
Fouling factor, assumed above	4.0	4.0	9.0	35.0	38.0	35.0	17.0	16.0	20.0	17.0	16.0	20.0	17.0	19.0

*Much judgment is required in computing velocities on the outside of the tubes. †Large amount of gas and steam. ‡More than one-third of heat duty is for steam. §Large volume of gas. ¶Wax film produced at this film temperature.

Analysis of Some Factors Involved in Geochemical Prospecting

By W. V. HOWARD

This is the first of two articles discussing the present known theoretical data on the geochemical methods of prospecting. The second will appear in an early issue.

ALTHOUGH many papers have been published on geochemical prospecting, or soil analysis[1], the theories advanced and, in some cases, the interpretation of data appear to be contradictory. This is, in part, due to the fact that analytical methods have not been standardized and different methods will give different results, even though the results obtained by any single method may be quite consistent. This paper is an attempt to summarize our present knowledge of pertinent theoretical data and thus, to encourage the reduction of this method of prospecting to some basis other than empirical.

In geochemical prospecting, there are several elements to consider:

(*a*) Can minute quantities of hydrocarbons be detected?

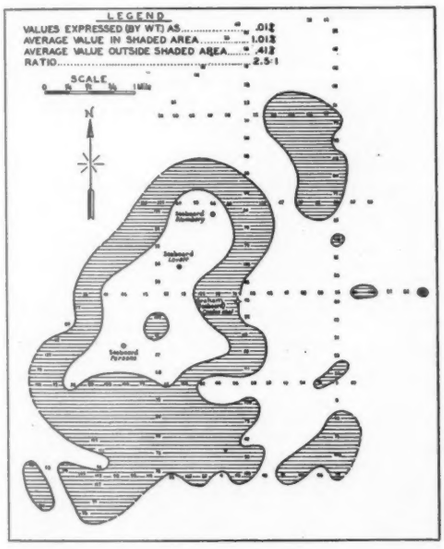


Fig. 1—Liquid-hydrocarbon map of the East Mathis area, San Patricio County, Texas. Since this map was published in The Oil and Gas Journal on July 20, 1939, two wells have been drilled. The Seaboard-Lovett producer within the "halo" and the Graham-Coates dry hole on the outer edge

(*b*) What method of sampling will give the best results?

(*c*) What sources are there of hydrocarbons in the soil?

(*d*) By what means do these hydrocarbons reach their present position?

(*e*) Do they change in character or are they in the same state as when they first reached their present position?

One other consideration must be cleared up also before one can arrive at a satisfactory solution to any of these problems, namely that a question is not answered by the misuse of a term which actually raises additional questions. At the Chicago meeting of the A.A.P.G., Prof. E. Berl stated that there was a tendency to call every chemical reaction which was not thoroughly understood "catalytic." There are a number of other similarly used terms, such as "polymerization," "capillarity" and "adsorption."

Catalysis

A reaction is said to be catalytic when its velocity is increased by the mere presence of an agent which is itself not changed in nature or amount at the end of the reaction. Catalytic agents are frequently metallic oxides which occur in the soil and in rocks. Frequently other substances which are present in the system poison the catalyst, even though they are not in themselves involved in the reaction. As sulfur and sulfur compounds are among the chief poisoning agents and are almost universally present in nature, naturally occurring catalysis will be less efficient than in the laboratory. If catalysis takes place only at the surface of the earth, then the catalysts responsible must be present only at the surface. Thus, if we postulate some reaction in the upper part of the soil, we must explain the presence of a catalyst there and nowhere else, or else show that poisoning reagents occur elsewhere and not at the surface. It is probably preferable to seek some other explanation for these restricted reactions.

Polymerization

Polymerization consists of combining two or more similar molecules together. Polymerization of saturated hydrocarbons is impossible without dehydrogenation. If we add two molecules of C_6H_{14} (hexane) we get $C_{12}H_{26}$ which contains two hydrogens more than dodecane and cannot exist as it would require two carbon atoms to have a valence of five. If we combine two molecules of hexene (C_6H_{12}) we get $C_{12}H_{24}$ (dodecene), which is also unsaturated. To obtain a saturated compound requires hydrogenation in addition to polymerization. If we combine a saturated hydrocarbon with an unsaturated hydrocarbon, we get a saturated hydrocarbon; this is not polymerization, but alkylation. Thus the formation of higher hydrocarbons from lower is not necessarily polymerization but may include other reactions, such as hydrogenation or dehydrogenation and, if so, it is necessary to determine whether or not these reactions can take place at ordinary temperatures and pressures.

Capillarity

The property of capillarity causes liquids to rise in tubes of narrow diameter, provided the liquid wets the tube. Given these conditions, the rise in narrow tubes of uniform composition varies inversely as the diameter of the tube. Geologists frequently use the term to apply to the rise of fluid in rocks. However, this is only one manifestation of surface tension where the liquid rises against gravity and the height of the rise gives a measure of the surface tension. A liquid enclosed in the pores of a rock does not act solely as a liquid in a vertical tube. The surface-tension effects act horizontally as well. Thus

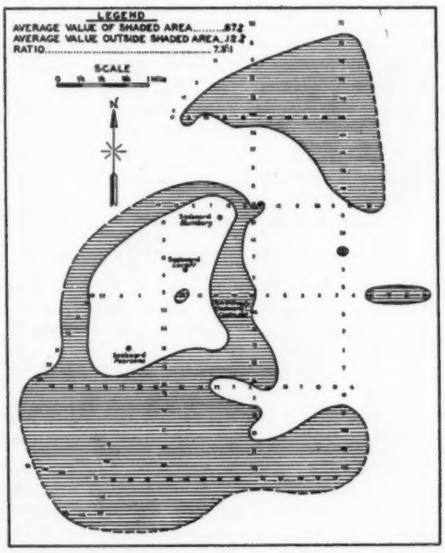


Fig. 2—Mineralization map of the East Mathis area, as previously published, with the addition of subsequently drilled wells

movements caused by differences in interfacial tension within the pores of a rock need not be vertical and to assume that oil will displace water through capillarity, implying only vertical movement, appears to be confusing buoyancy with capillarity. It also ignores preferential movement resulting from a combination of buoyancy and permeability which may cause movement along the bedding planes of a permeable rock rather than vertically across them.

If the pores of a rock can be considered as if lined up to form a series of irregular capillary tubes, they form an almost infinite series of such tubes which are oriented in all directions or branch and recombine in an almost infinite variety of ways. Capillary movements in such a system cannot, therefore, be reduced to a simple

formula as in the case of vertical tubes, the ends of which are immersed in a liquid.

Adsorption

Adsorption is the condensation of gases, liquids or dissolved substances in monomolecular films on the surfaces of solids. The property is selective in that the adsorbing surface will adsorb the most active compounds from an oil first, namely the unsaturates, followed by oxygen, nitrogen and sulfur compounds. Petroleum resins are strongly adsorbed. Different solids adsorb oil in varying amounts and it is believed that no two samples of the same adsorbent can be prepared whose surface will have precisely the same adsorptive power. Thus, in dealing with supposedly adsorbed hydrocarbons, the amount adsorbed depends not only upon the quantity available, but also on the adsorptive power of the particular sample of adsorbent.

To consider all of the hydrocarbons extracted from a soil sample as having been adsorbed is to ignore various other types of association. The hydrocarbon may have become absorbed in the interior of the grains of soil or may have penetrated cracks or capillaries where it is held tightly. The term "sorption" which covers all ways in which liquids and gases may be held by solids is probably preferable. Use of the more restricted term "adsorption" implies a knowledge of physical status which may not exist.

Thus of the four terms which are frequently used confusedly, "catalysis" should be used only when the catalyst is known and the reaction is definitely catalytic. "Polymerization" is more frequently a different type of reaction and may involve hydrogenation or dehydrogenation. "Capillarity" involves a great number of interfacial tension effects, the majority of which are unpredictable and "adsorption" should be replaced by "sorption" except where the phenomena are definitely known to deal with the concentration of monomolecular films on the surface of solids.

Determination of Minute Quantities of Hydrocarbons

Amounts of gas varying between parts per hundred and parts per billion are reported by the various companies specializing in soil analysis. In the case of those reporting parts per billion, concentrations of less than 100 parts per billion or one part in 10,000,000 are not considered particularly significant. This is within the limits postulated by LeBaron, although the methods of analysis are not necessarily the same.

In this connection, it is interesting to note that much greater accuracy is possible with analyses based on physical measurements than with chemical analyses. This is due to several factors, including the arithmetic used in calculations. As atomic weights are generally carried only to two places of decimals, their use in calculations may be correct only to the second or third integer. Another factor of importance is the fact that impurities are often hard to eradicate from a sample being analyzed chemically. If the gases are burned, the products of combustion are CO_2 and water. These are generally also present in the original sample and it is very difficult to remove the last traces so as to ensure that no residual portion of the impurities will be found in the gas to be analyzed.

The accuracy of any analytical method can, of course, be demonstrated to any skeptic by the simple method of providing check samples. These may be of two kinds, either a large sample may be divided into two or more parts, or else two or more samples may be taken from the same place at the same time.

In the former case, the sample should not be divided by splitting into two approximately equal parts, but it should be carefully divided by taking small quantities at a time—1 per cent or thereabouts—and building up the smaller samples in this way. This refers to soil samples rather than to soil-gas samples. Gas samples should be divided by permitting equal quantities of gas to flow into two or more receptacles from a larger one. If two separate gas samples are taken at the same time from the same place, or from nearby points, they may show significant differences as new gas flows into the evacuated area from outside.

Some observers report seasonal variations and published results show very definite changes in the hydrocarbon content of samples taken at different times over the same traverse. This is not necessarily a weakness, as the Schlumberger method of outlining ore deposits also shows variations from time to time over the same traverse, although the relation between highs and lows remains constant. These seasonal variations, however, indicate that the absolute quantity of hydrocarbons detected may be very much less important than the variation between high and low concentrations on a single traverse.

Methods of Sampling

If soil gas is being collected, LeBaron recommends that the gas be extracted from seismograph shot holes before the shot. These, of course, would not ordinarily be spaced sufficiently close to afford a complete examination and he recommends that they be used in conjunction with soil samples.

Soil samples may be taken from different depths and all care should be taken to avoid artificial contamination. Obviously, the best method of sampling a traverse would be to trench and sample the trench, but this is too expensive for practical use. A single grab sample may, however, not be representative of the interval between sample points and some contamination may exist even though great care is taken to avoid it. One method of getting more nearly average samples would be to take five samples arranged in a five spot around the central points, mix them well and carefully average them down to the desired size. In this way, high concentrations due to contamination at a single spot would be reduced by 80 per cent and there would thus be less likelihood of obtaining an anomalous reading.

Sources of Hydrocarbons

Hydrocarbons present in the soil and in soil gases may be derived from four main sources, of which two seem to have received little consideration. It is well known that plants decompose to form methane and other gases, although this decomposition is not ordinarily thought to involve the higher hydrocarbons. For this reason, some observers do not consider methane determinations of great importance. A high concentration of methane might merely mean a high concentration of decomposing plant material.

A second source of hydrocarbons is believed to be buried deposits of oil and gas. It is on this one point that geochemical surveys base their claim to value.

Other sources are hypothetical. Among the products of plant decay or fermentation are humic acids, which have the composition R.COOH. If CO_2 could be removed from these acids, they would have the composition R.H. That is, they would be saturated hydrocarbons. This particular reaction probably does not take place in the soil, although organic acids form one step in the formation of bituminous material from carbohydrates, according to Dr. Berl.

Other substances which are formed by fermentation of plant material are aldehydes and ketones; in minute traces these might be included among the hydrocarbons, particularly the former. Aldehydes polymerize readily into higher forms, many of which are resinous or waxy. Such compounds might readily be included with paraffin waxes if both were found in such minute quantities that qualitative tests could not be made. This may be a part of the reason for McDermott's view that soil waxes are not significant.

A fourth possible source for hydrocarbons is decomposing animal matter. Ants contain formic acid, which has many characteristics of aldehydes. Hydrocarbons have been formed from many forms of animal life and it is quite conceivable that traces would be found in the soil.

Whether or not hydrocarbons are formed from these sources, the possibility is of interest and one explanation of the almost universal occurrence of hydrocarbons in the soil is that a part at least is formed in place, while an excessive amount may indicate migration from some other place. An excess occurring in a single sample may, if this speculation is valid, be a part of the remains of a particularly oily worm and it is for this reason that samples should preferably be taken from more than one spot. It should also explain single anomalously high readings in an area of predominantly low readings.

It thus appears that a halo should not be postulated on four high readings located on two intersecting traverses unless a check traverse produces the same results as the original.

Merritt has pointed out that the cost of an unnecessary dry hole will pay for a great deal of geochemical prospecting and it would seem advisable to save this cost by the small amount necessary to check apparently favorable results.

Bibliography

1. Articles on soil analysis in The Oil and Gas Journal: June 23, 1938, p. 20; Mar. 16, 1939, p. 23; June 15, 1939, p. 36; July 27, 1939, p. 82; Sept. 14, 1939, p. 52; Jan. 11, 1940, p. 43; Feb. 29, 1940, p. 54; Apr. 25, 1940, p. 114; June 13, 1940, p. 68.

Other books and articles referred to in the preparation of this article include:

Careleton Ellis, Chemistry of Petroleum Derivatives Vol. 2, 1937, and Hydrogenation of Organic Substances, 3d ed., 1930.

The Science of Petroleum, 1938:

Sec. 19, The Chemistry of Hydrocarbons, by J. F. Thorpe and E. H. Farmer; Colloid and Capillary Chemistry of Petroleum, by H. Freundlich.

Sec. 26, Adsorption, by A. King.

Sec. 30, Thermal Reactions of Gaseous Hydrocarbons, by F. E. Frey and H. J. Hepp.

Sec. 31, Thermochemistry of Petroleum Hydrocarbons, by A. W. Francis.

E. E. Rosaire, Handbook of Geochemical Prospecting, 1939.

Eugene McDermott. Geochemical Prospecting, Bull., Amer. Assoc. Petrol. Geol., May 1940.

V. A. Sokolov, Neft. Khozyaistvo., 1936, No. 5, pp. 18-23.

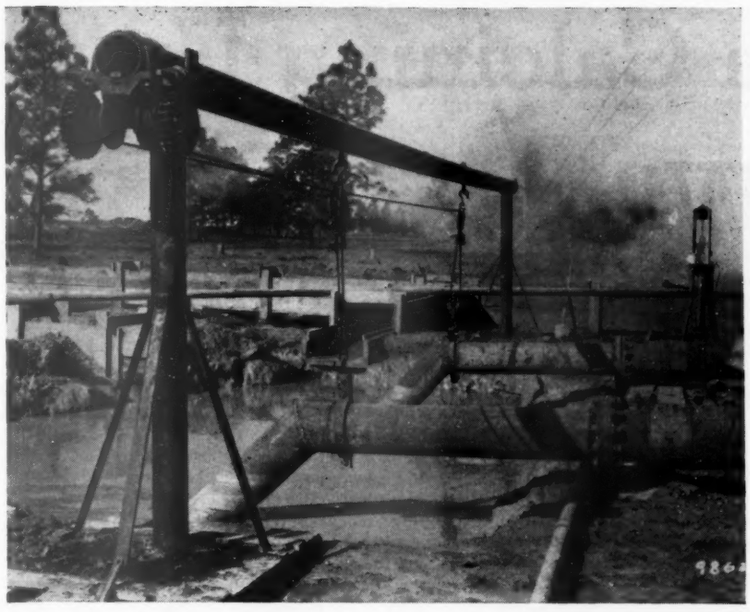
S. M. Gabrielyan and I. A. TilyUpo, Groznenskii Neftyamik, 1936, No. 9, pp. 29-32 (translated by A. A. Boehtlingk, For. Pet. Techn. 1939, pp. 521-49).

●

Oil and Petroleum Year Book 1940

The 1940 issue of the Oil and Petroleum Yearbook compiled by Walter E. Skinner, (published annually in May for 31 years), has just been issued. The book covers 531 pages and gives complete and up-to-date particulars concerning 775 companies engaged in producing, transporting and marketing oil, financing oil development, or directly associated with the oil industry in all parts of the world. During the past 2 years particulars of over 150 companies have been added. Lists are given of the officials connected with the companies and comprise 2,686 directors, 365 secretaries and 286 consultants, managers, agents, etc., their names and addresses and company connections. The particulars of each company include the directors and officials, date established, location of property, or description of business, oil production, capacity of refineries, capital, dividends and financial position. Glossary of 141 technical terms and words peculiar to the oil industry is a useful feature. The book is published by Walter E. Skinner, 15 Dowgate Hill, Cannon Street, London, E. C. 4. Price 10s. net; or post free (abroad) 11s.

Operating Ideas

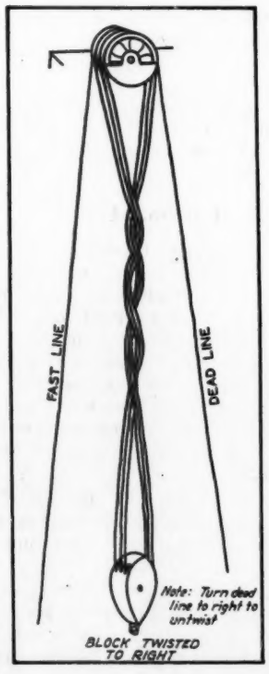


Two-Pump Suction Rack With Double-Drum Winch

Raising and lowering the suction is an important part of modern drilling as the driller is thus able to control the weight and viscosity of the mud being pumped into the hole. The illustration shows the method for performing this work recently introduced by one Gulf Coast contractor. Two uprights made from drill pipe set on board foundations and support a joint of drill pipe which extends across the suction pit. Two pulleys are held by eye-bolts in the long pipe and there is a pulley attached by a clamp to each suction. A double-drum hand winch attached to one end of the cross member permits quick and easy adjustment of the suction.

Open Heat Exchanger

In the Talco field, Titus and Franklin counties, Texas, purchased gas is used in heat treating crude and fuel costs are closely watched. This open heat exchanger is used on one lease to raise the temperature of the incoming crude by rough exchange with the separated, heater water. The trough is made of welded-steel barrels.



Tool Rack Made From Old Pipe

Most contractors build tool benches for holding the hand tools when they are not in use; some make the benches of steel and others make them of wood, the latter being rather temporary affairs. One Illinois contractor has introduced a new method for keeping the tools in one place, a

tool rack made from 2 and 3-in. nipples. The nipples, of varying length, are welded to a solid steel base and the handles of the tools can be easily inserted in the nipples. For holding brushes, hammers, hatchets, etc., short nipples are provided, while for longer handled tools, long nipples are provided. The tool rack is set in the corner of the derrick where it is easily accessible to the workmen; replacing the tools after each task speeds up the operation of the rig.

Placing Back Twist in Line

It is often necessary to put back twist in a line strung through blocks due to eliminate the tendency of the blocks to twist. This is generally accomplished by laying the traveling block on the floor or clamping the two fastest lines together just above the traveling block, then unclamping the dead line and twisting it so many times in either direction. If twisting the dead line to the right does not produce results, it is next twisted to the left. This trial and error method may be eliminated by using a strand of soft rope suspending a weight to duplicate the problem. If the lines are crossed to the right (crossed further by turning the block to the right) when locking up the derrick, twist the deadline to the right; if crossed to the left, twist the deadline to the left. In applying this rule, one must always be looking toward the crown block.

First California Calcining Unit Completed at Wilmington

By L. P. STOCKMAN

The market has been very weak for the coke remaining after cracking petroleum. By processing in a plant now being built by the Great Lakes Carbon Corp. at Wilmington, Calif., this byproduct of refining will be converted into almost pure carbon. The plant is designed to handle approximately 384 tons of petroleum coke daily and the carbon recovery will be about 85 per cent or about 323 tons daily.

ALTHOUGH several hundred derivatives, ranging from gasoline and solvents to asphalt, salves and ointments, are refined from crude oil, the problem of petroleum-coke disposal, the residual result of cracking operations, has not yet been solved from an economic standpoint. Several attempts have been made in California during the past decade to create a market for petroleum-coke briquettes for domestic heating but each attempt has proved unsuccessful due to the relatively low consumer price of natural gas and the reliability, availability and convenience of this fuel. The inability to create a domestic market for petroleum coke is due primarily to these reasons almost entirely because the outstanding characteristics of petroleum coke which are low ash content, usually ranging around 0.50 per cent or less, and an extremely high thermal value of about 16,000 B.t.u. per pound give it a high rating in thermal efficiency.

As a consequence of the limited demand, petroleum coke has been accumulating at several California refineries for a number of years with the result that commercial coke prices are practically nil and the demand low and very seasonal. During extended periods of freezing weather, once in several years, orange and lemon growers use considerable petroleum coke to augment supplies of heating oil but this is too infrequent to justify maintenance of large stocks. The necessity of keeping stocks of petroleum coke moving is imperative because of the fire hazard and the large acreage required.

Factors Determining Location

Great Lakes Carbon Corp., with executive offices in New York and of which George Skakel is president, will soon place in operation the first calcining unit on the Pacific Coast to operate exclusively on petroleum coke. This new unit, which will convert petroleum coke into almost pure carbon of the highest quality and in a form suitable for many industrial uses by the application of heat, is in the Wilmington district of Los Angeles Basin on a 10-acre parcel which the company purchased several months ago. In selecting this location, the company considered several necessary and important factors. These were (1) location of the principal source of raw material; (2) location and accessibility of marine facilities; (3) proximity of railroad tracks and truck routes; (4) availability of acreage within a warranted price range; and (5) transportation costs of raw material to plant and cost of moving finished product. The plant is located about midway between the Watson refinery center and tidewater at Long Beach Harbor. The new plant and equipment and auxiliary facilities will represent an investment of about $400,000 with an additional $75,000 for dock and wharf construction and dredging operations. Indications point to the probability that most of the production during the next several years must move offshore due to limited local demand for high-quality carbon. The marine terminal will be capable of loading from 6,000 to 8,000 tons of carbon and other bulk materials per day.

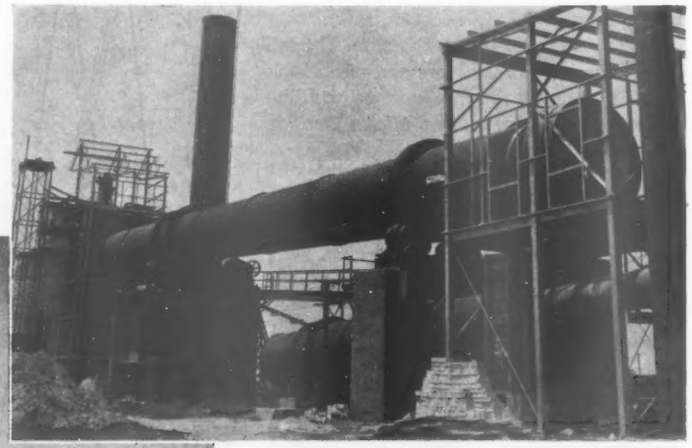
Fuel oil will be used in the calcining furnace for heating during processing and maximum temperatures required for production of amorphous carbon will approximate 2,700° F. Dubbs cracking units usually operate at about 1,600° F., so that in the calcining process the coke will be subjected to an additional 1,700° F. Fuel-oil consumption will approximate 250 bbl. per day as a minimum although this may vary depending upon any hydrocarbon gases recovered and burned as fuel. The amorphous carbon to be produced, with careful selection of charging stock, should have a purity of about 99.30 per cent fixed carbon, sulfur excluded. The new calcining plant will process petroleum coke supplied by Shell Oil Co., Inc., from Dubbs cracking units at its Watson and Dominguez refineries within a radius of 3 miles of the coke-processing plant and on the main line of the Pacific Electric railway. Shell will also supply fuel-oil requirements. There is a possibility a carbon of lesser purity may be made to supply local requirements.

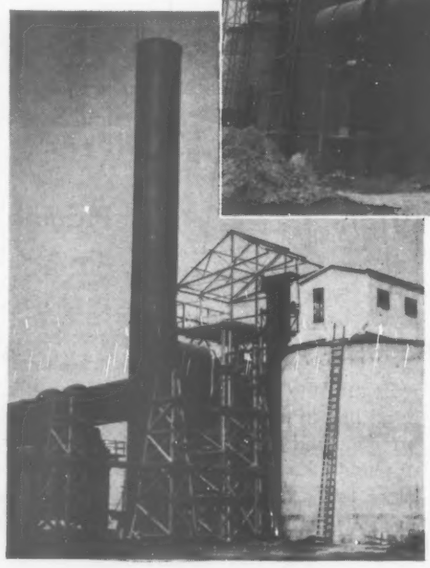
Properties of Coke

California petroleum coke will vary to a large degree depending upon whether it is taken direct from the Dubbs cracking units or subjected to weathering. An analysis of two samples reveals a wide discrepancy in both the fixed carbon and volatile matter present. One pile sample showed the fixed carbon by weight at 87.4 per cent, volatile matter at 12.3 per cent, ash 0.3 per cent and a density of 2.08. The moisture of pile-run material depends to a great extent upon weather conditions and will average from 8 per cent to 12 per cent moisture. Solubility of this pile-run sample in benzol was 3.3 and the calorific value was 15,630 gross B.t.u. A second sample showed a fixed carbon by weight of 94.96 per cent, volatile matter 3.28 per cent, ash 0.35 per cent and moisture 1.41 per cent. The calcining plant is designed to handle about 140,000 tons of raw petroleum coke annually, approximately 11,666 tons monthly or 384 tons daily. Total state production of petroleum coke approximates only 340 tons daily and production in southern California close to the new plant will probably average around 200 tons daily. For this reason, the plant will either operate below capacity or use petroleum coke from the huge piles Shell Oil Co., Inc., has accumulated at its Watson and Wilmington refineries.

It is believed carbon recovery in the Wilmington plant will average 85 per cent of the charging stock of petroleum coke as about 10 per cent

Right: General view of calcining unit recently completed by Great Lakes Carbon Corp. at Wilmington, Calif. Below: This 80-ft. stack indicates size of unit





of the charge will probably consist of mineral ash and salts, sulfur, gum, some heavy hydrocarbons and other impurities. On this basis the annual production of amorphous carbon would be around 117,895 tons. This is at a daily rate of 323 tons, the equivalent in liquid measure of 1,776 bbl. of 42 U. S. gallons each. There was on hand in California at the close of April 1940 the equivalent of 1,200,000 bbl. of coke. On the basis of 5.5 bbl. per ton, this would represent 218,180 tons of raw petroleum coke on hand at the refineries Production during April was reported as the equivalent of 56,000 bbl. which represents 10,190 tons and on a daily basis this is at the production rate of 340 tons each 24 hours. About 60 per cent of the stocks and daily production of petroleum coke is the result of cracking operations in Los Angeles Basin. The remainder is in the north central part of the state, in the San Francisco Bay region, and will not be used in the operation of the new plant for the present. Shell Oil Co., Inc., is by far the largest producer of petroleum coke and owns a large part of the total stock.

Plant Equipment

The principal uses for high-grade carbon are in the manufacture of carbon electrodes and anodes in dry-cell batteries and for general metallurgical lines where a pure quality of carbon is required. This carbon is also used in the aluminum industry, for manufacture of carbon brushes for electric motors, for abrasives and other miscellaneous uses. It is sold to metallurgical consumers throughout the world under very rigid specifications and analytical guarantees.

Shanahan Brothers, Inc., of Los Angeles were the general contractors and J. T. Thorpe, Inc., were the construction contractors for all fire brick and insulation work on the new plant. Consolidated Steel Corp. furnished most all of the metal units including the stacks and revolving cylinders, the largest approximately 100 ft. long with a diameter of about 4 ft. One of the most interesting features was erection of three silos or storage tanks with a capacity of about 50,000 tons of carbon. These three large tanks are 60 ft. high, have a diameter of about 60 ft. and a wall thickness of 18 in. The lower 6 ft. of each tank is below the surface. They were constructed with concrete reinforced with steel. They were erected at the rate of 8 in. per hour as the prepared forms were moved from bottom to top. After the forms were raised the cement mixture was poured from an elevated control and by the time that the crew had finished the last pouring the first tank had set sufficiently to permit additional pouring.

Method of Processing

Raw petroleum coke will be received at the plant in freight cars. After the raw petroleum coke has been unloaded it will be conveyed through a tunnel and up an inclined track mechanically to an elevated building where it will be screened and reduced in size. The raw charging stock is then dumped into a cement container below the building containing the screen, from which point it is again elevated and fed to the calcining chamber which is immediately above a fuel-oil-fired furnace. The resulting carbon is discharged into an inclined cylinder which has sufficient inclination to deposit the partly finished carbon at a secondary heating unit. A second revolving cylinder is inclined in the opposite direction and receives carbon from the second heating unit. The carbon, after discharge at ground level from the second heating unit, is conveyed to the concrete tanks. The design of this new plant is somewhat similar in design to other units of Great Lakes Carbon Corp. at Lockport, Ill., and Port Arthur, Tex. At Niagara Falls, the company operates an electrical calcining unit where graphitized carbon and electrodes are produced under the extremely high temperature of 6,000° F. California operations will be under supervision of Robert T. Collier, who resigned as assistant general sales manager of Shell Oil Co., Inc., to become vice president of Great Lakes Carbon Corp. California executive offices will be maintained in Long Beach.

•

SAFETY - Handling Drill Pipe Requires Care

HANDLING the drill pipe while going in and out of the hole is the major part of the duties of the floormen on a rotary drilling rig. Like many tasks, this work is not dangerous if done properly, although, due to the speed with which the pipe is handled, a certain number of injuries is bound to result, particularly if the men are inexperienced or are not alert.

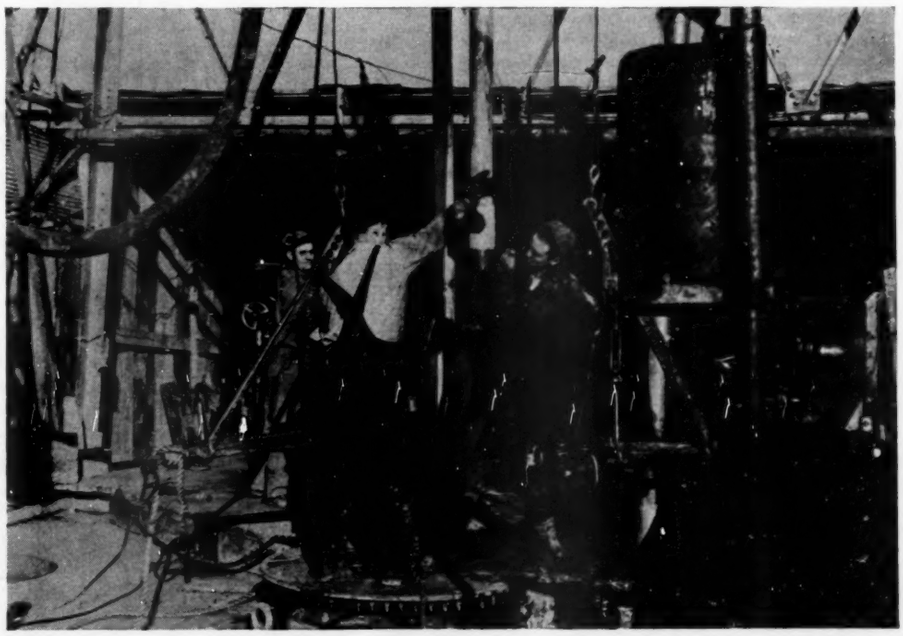
When a stand of pipe is picked up, the bottom swings toward the center of the derrick quite rapidly and it is up to the pipe racker and backup man to check the pendulum-like movement so the pin will fall into the box when the driller slacks off on the brake.

Checking the pipe at just the right height is often difficult, although all drillers try to pick up the stand so the pin will clear the box by about 6 in. As long as the stand of pipe is not elevated beyond the point where the pin is head-high, the men on the floor can control it.

In the accompanying picture the bottom of the stand is shoulder-high and the pipe racker has his right hand hooked around it while the backup man has his right hand against it. The pipe racker could slip his arm completely around the pipe and thus get it closer to his body where the control would be a little easier. However, in that position he cannot get free as easily in case it is necessary to do so. The backup man is somewhat restricted by the tongs being latched around the box on the pipe already in the hole, but he is in position to give all the aid necessary.

This crew is using a chain for a spinning line with the tong spliced into it, making what is called a forked tail line. The chain is looped loosely around the pipe and the backup man has his left hand through the loops to provide a brace. Otherwise the pipe swinging across the center of the derrick would knock him off of the rotary table. After the stand is set down and the pin and box are engaged, the tongs are simply slid upward and the spinning and tonging of the pipe is performed. The chain is particularly advantageous where the pipe is muddy and the rope which is ordinarily used would slip.

There is one danger which the pipe racker and backup man always face and which accounts for the manner in which they handle the pipe. Modern elevators are much safer than those used in years passed and yet the derrick man may fail to latch them securely around the pipe. This will cause the pipe to be raised off of the floor and then, when the elevators spread apart, dropped suddenly. Whenever the derrick man fails to completely latch the elevators he always yells, but the sad part is that no one hears him due to the noise from the engine and hoists. Consequently, the floormen must be sure that their legs and feet are not under the pipe, or, if they are, that they have control over the pipe so in case it starts to fall they can force it away and avoid serious injury.



Directional Drilling, Surveying and Polar Core Orientation

By G. L. KOTHNY
Vice President, Sperry-Sun Well Surveying Co.*

This article discusses in detail the techniques used to obtain data necessary in well surveying and the manner in which the information is applied. It also describes the method by which the dip of the formations is determined through polar core orientation.

FOR a variety of reasons it is important that wells be drilled vertically and straight. It may be arbitrarily assumed that a straight hole is one which does not deviate more than 2° to 3° from the vertical and such deviation should not be continuous in any one direction, nor should the change be abrupt, but rather gradual. Crooked holes are the cause of many difficulties.

It is the practice in production to space wells apart at equal distances to secure uniform drainage. Crooked wells make this impossible and secure a lower overall percentage extraction, than if the wells penetrate the productive sands at uniformly spaced points (Fig. 1).

The laws of property ownership prohibit the encroachment on neighboring properties. One who drills an oil well on his own land and permits it to drift away into the lands of another and puts the well on production is liable for trespass and for conversion of oil taken from the other man's land.

Crooked holes also introduce many mechanical difficulties. Greater power consumption, due to excessive friction, is required in rotating the drill pipe. Twistoffs occur more frequently with resulting difficult and costly fishing jobs; or in cable-drilled holes, the cable tools are difficult to operate and the casing may become "line cut" and collapse, due to the cable scraping on one side. Crooked holes are more expensive as they require the drilling of a greater footage to reach the desired depth than would a straight hole.

Likewise a crooked hole offers many difficulties during production period, particularly during the pumping. There is excessive wear of the sucker rods, the tubing, and the pump plunger; greater power consumption due to excessive friction and less volumetric production.

Proper geologic correlation and correct determination of the thickness of the formations penetrated or of producing horizons is impossible unless the wells are straight or a correct map of the course of the well is obtained.

The realization of these various considerations led to the development of various well-surveying instruments, some of which will be briefly described.

Well-Surveying Instrumen's

Types.—Well-surveying instruments are of two types; those recording vertical deviation only are called clinographs or inclinometers and those recording the inclination and direction of the inclination are called directional clinographs or directional well-surveying instruments. Both types are either of the single or multishot type. Single-shot instruments produce one single record, while multishot instruments furnish a series of records.

Records are made by photographic, or mechanical or electrical means and in some single-shot clinographs or inclinometers the inclination is recorded by the position of a liquid surface.

The most important feature of any well-surveying instrument is that it is self-checking. It must not produce a record unless the instrument has come to rest at the depth where the record is wanted.

Liquid-level and photographic-type instruments possess this most important characteristic. Pendulum-type instruments mechanically operated may produce a good-looking and easily readable record, but such record may have been made while the pendulum is in motion, or before the instrument has come to rest at the depth at which the record is desired. With a liquid level or with a photographic-type instrument a blurred or no record at all would be obtained unless the instrument has come to rest.

Sustained accuracy of the instrument is another important requirement. The design of the instrument must be such as to produce true and accurate records, and when making the record the instrument must be operated so that it takes a position parallel with the drill pipe. This is not always possible, particularly in nearly vertical holes. The outside diameter of the instrument is usually smaller than the inside diameter of the drill collar, to permit circulation. Hence the instrument may assume a position not parallel with the pipe, which may result in the recording of a slightly different angle from that which the drill collar actually assumes. This is clearly illustrated in Fig. 2. From this figure it will be seen that in a drill collar of 3-in. inside bore, an instrument of 1¾-in. o.d. and of a total length of 92 in. may produce records with errors, ranging from 47 to 23 minutes.

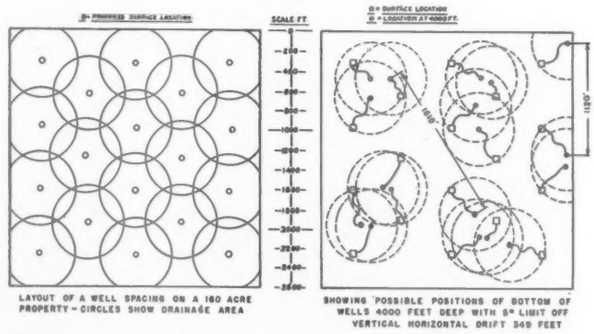
Sometimes the necessity of having instruments recording deviations as small as 5 minutes is emphasized. The fallacy of such requirements is clearly demonstrated in Fig 2.

Single-shot directional clinographs are mostly of the photographic type, using a magnetic compass for indicating the direction and a cross-hair plumb bob for the inclination.

Multishot directional clinographs are also of the photographic type. For indicating the direction either a magnetic compass or a gyroscopic indicator is used. Inclination is obtained through either a cross-hair pendulum or through a spherical box-level gage.

Clinographs, inclinometers, and directional magnetic single-shot instruments are usually rented

Right: Fig. 1—Effect of crooked holes on spacing pattern. Right below: Fig. 2—Error caused by instrument not being parallel to axis of drill pipe. Below: Fig. 3—Table showing effect of crooked holes

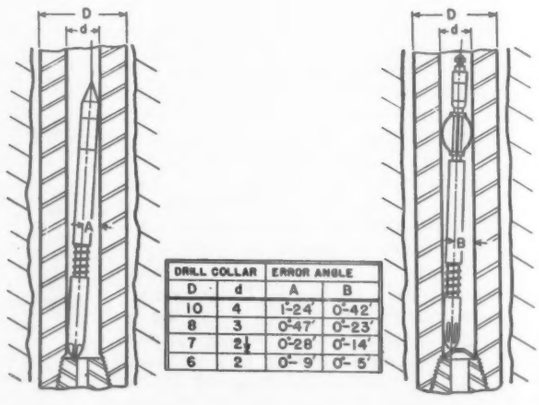


LAYOUT OF A WELL SPACING ON A 160 ACRE PROPERTY – CIRCLES SHOW DRAINAGE AREA

SHOWING POSSIBLE POSITIONS OF BOTTOM OF WELLS 4000 FEET DEEP WITH 8° LIMIT OFF VERTICAL HORIZONTAL DRIFT 349 FEET

Table Giving Drift and Loss of Depth Per 100 Feet of Measured Depth

ANGLE	DRIFT	LOSS	ANGLE	DRIFT	LOSS
½	0.87	0.00	11	19.08	1.84
1	1.75	0.02	12	20.79	2.19
1½	2.62	0.03	13	22.50	2.56
2	3.49	0.06	14	24.19	2.97
2½	4.36	0.10	15	25.88	3.41
3	5.23	0.14	16	27.56	3.87
3½	6.10	0.19	17	29.24	4.37
4	6.98	0.24	18	30.90	4.89
4½	7.85	0.31	19	32.56	5.45
5	8.72	0.38	20	34.20	6.03
6	10.45	0.55	22	37.46	7.28
7	12.19	0.75	24	40.67	8.65
8	13.92	0.97	26	43.84	10.12
9	15.64	1.23	28	46.95	11.71
10	17.36	1.52	30	50.00	13.40



DRILL COLLAR		ERROR ANGLE	
D	d	A	B
10	4	1°-24'	0°-42'
8	3	0°-47'	0°-23'
7	2½	0°-28'	0°-14'
6	2	0°- 9'	0°- 5'

*Author's title, "Well Surveying, Directional Drilling and Polar Core Orientation."

on a daily basis and operated by the drilling crews whenever necessary. The rental fees range from $2 to $7 per day, depending upon the type of instrument and the field equipment furnished with it. A minimum rental period of not less than 15 days is conditional. Photograph supplies, dry-cell batteries, and light bulbs are furnished free with the rented instrument, which also is periodically serviced.

Multishot surveying instruments are more complicated and require experienced and specially trained engineers for their operation, as well as for the interpretation of the records and plotting of the survey maps. For this reason most of the multishot surveying is done by service companies specially equipped with service trucks carrying winches and wire line and other equipment, to give quick and reliable service. The charges for this service range from 6 cents to 7½ cents per foot depth, depending upon the type of instrument and equipment used.

Description of Instruments

Inclinometers. — These, as previously stated, measure only the drift of the hole from the vertical and are of either the liquid-level or pendulum type, the latter recording photographically or mechanically.

Inclinometers of the liquid-level recording type use either hydrofluoric acid for etching a glass bottle or a harmless dye recording on a paper chart arranged cylindrically inside of the recording chamber. The recording fluid is timed by passing through an orifice in the upper (timing) chamber and by being siphoned from the second (delivery) chamber into the third (recording) chamber. Therein the record is made almost instantaneously as the recording fluid remains in it a few seconds before it is entirely emptied into the fourth (receiving) chamber, thus preventing splashing or marring of the record while the instrument is pulled out of the hole. While passing through the recording chamber the liquid leaves a stain with a sharp demarcation line in the form of a sinuous curve on the recording paper. The vertical distance between the highest and the lowest points indicates directly the angle of deviation; the distance is measured with a scale in degrees prescribed on top of the recording chart, or with a transparent scale.

Inclinometers of the photographic type record on sensitized paper the image of a cross hair attached to a pendulum and swinging directly above a glass disk which has etched on it concentric circles representing degrees of inclination. Since both the cross hair as well as the concentric circles are photographed, no errors due to improper insertion of the recording disk are possible which may occur when photographing the cross hair or punching recording disk on which the concentric circles indicating degrees are preprinted.

These instruments consist of a timing clock, a dry-cell-battery power plant, which supplies the electric energy which lights the bulbs, when the hand of the timing clock closes the electric circuit, and a camera. The time of exposure is about 2 minutes.

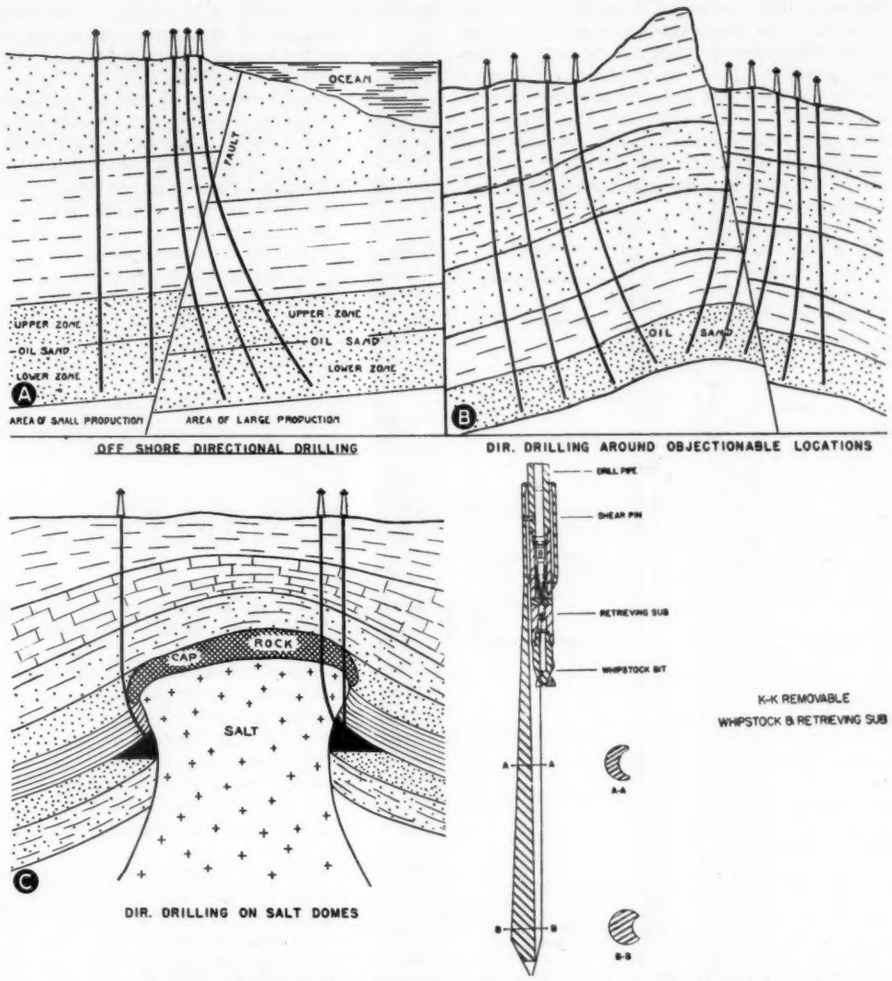
The recording disk is inserted in the loading slot of the instrument by means of a daylight loading magazine and is removed by means of a daylight developing tank, with the disk being developed and available for reading within less than 5 minutes after the instrument has been returned to the derrick floor.

Inclinometers can be run inside the drill pipe on a wire line or dropped and pumped down as a go-devil, the latter method being particularly applicable to deep wells where there is danger of sticking the pipe, as the mud-circulating pump is thus out of action a minimum of time.

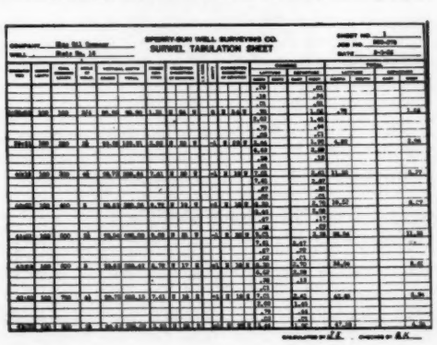
When used as a go-devil the instrument is recovered when the pipe is pulled from the hole or retrieved by running a wire-line overshot. When run in an open hole inclinometers are lowered on a bailer line attached to a sinker bar or inside a bailer.

A drift chart (Fig. 3) shows the horizontal drift of the hole as well as the decrease in actual vertical depth for depths from 1,000 to 10,000 ft. and angles from 1° to 10°. If readings are taken at regular intervals of not less than 250 ft., it is possible with the aid of this table to find the correct vertical depth. The true course of the hole can be determined only with a directional well-surveying instrument.

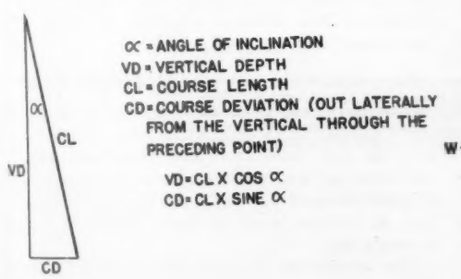
Directional magnetic single-shot instruments for recording amount and direction of deviation employ a compass floating on a liquid with low surface tension, held concentric by a fine wire in addition to the elements used by the photographic inclinometer. The compass card as well as the cross hair and concentric circles are all photographed on the recording disk. The operation of the instrument is similar to the photographic in-

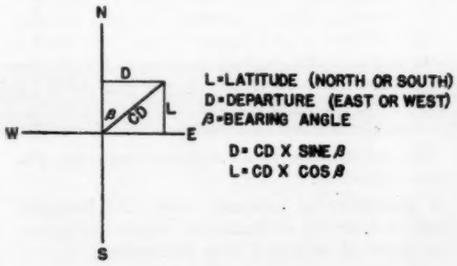


Several uses of directional drilling are shown in Figs. 7, 8, and 9 (upper left, upper right and lower left, respectively). Lower right: Fig. 10 shows one type of removable whipstock



Below: Figs. 4 and 5—Method used in computing underground surveys. Right: Fig. 6—Actual record showing method of compiling data

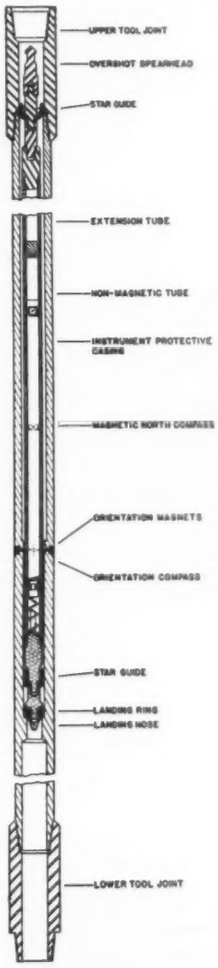

∝ = ANGLE OF INCLINATION
VD = VERTICAL DEPTH
CL = COURSE LENGTH
CD = COURSE DEVIATION (OUT LATERALLY FROM THE VERTICAL THROUGH THE PRECEDING POINT)
VD = CL X COS ∝
CD = CL X SINE ∝
∝
CL
VD
CD



clinometer. The instrument is made in two sizes, the small one which is often used as combination go-devil inclinometer inside the drill pipe (disregarding the compass records) and as a single shot in the open hole or in conjunction with the conventional wire-line core-barrel bits, the instrument extending through the bits into the open hole, and the larger size, which is used on a sand line, in the open hole only. By taking single-shot records every 100 ft., or even less, while drilling the operator has at all times a record of the true course of the hole and is in position to alter it at will.

For completely surveying a hole a multi-shot gyroscopic clinograph is used. A directional gyroscopic indicator records the true north-south direction. Use of the second property of the gyroscope, the precession, is made in compensating the gyroscope for the earth's rotations. The gyro pointer is oriented to true north and balanced so that it will remain in that position during the survey. The instrument consists of a gyroscopic unit, a camera unit, and box-level-gage unit, all enclosed in a protective case. Current for the gyro motor, the camera motor, and illumination for recording is furnished by dry-cell batteries.

The gyroscopic unit has a direct-current motor operating at 12,000 to 14,000 r.p.m. To the face of the gyro unit are attached an accurate clock and a thermometer; a companion clock, identical and synchronous with the instrument clock, is used on the derrick floor for recording the time at certain depth intervals. The face of the gyro unit is photographed together with the face of the box-level gage, thereby recording amount and direction of deviation, time at which the record was taken, and the temperature prevailing inside the instrument. The camera unit uses 16-mm. film and has a capacity of 1,000 to 1,200 pictures with the film takeup being controlled by a geneva movement. The operation of the camera and the illumination is intermittent, thus saving electrical energy. The box-level unit has a bottom and spherical top with concentric graduations made from special ground glass. The box is filled with fluid having a low surface tension and a small air bubble is provided. The position of the bubble in relation to the concentric graduations is what is recorded on the film and indicates the degree of vertical inclination.



Upper: Fig. 11—Nonmagnetic sub used to run directional-surveying instrument on drill pipe. Below: Fig. 12—Direct-reading chart obtained from directional-survey instrument

The gyroscopic clinograph is run in the open hole on the drill pipe or tubing and in cased holes on a wire line. Records are made at each stand if run on the drill pipe or every 100 ft. if run on the wire line going into as well as coming out of the hole, thus obtaining a continuous closed traverse, or two independent surveys, thus verifying the accuracy of the data obtained.

The gyroscopic clinograph is extremely speedy and saves considerable rig time. An 11,500-ft. hole can be double surveyed in about 2 hours and 40 minutes on the wire line and in about 5 hours and 40 minutes on the drill pipe or tubing.

Interpretation of Survey Records

The method used most for computations of multi or single-shot surveys is the latitude-and-departure method.

Latitude refers to the position north or south, while departure refers to the position east or west of the mouth of the well on the derrick floor (Fig. 4).

In this method it is assumed that the course length between two observation points is a straight line and the hypotenuse of the right triangle, the angle of which is the angle of inclination, and that this angle exists throughout the course length between the two points. Obviously this is not so since the angle changes gradually; but since records are usually taken at intervals of 100 ft. or less, and since a change of more than 9° in the angle of inclination very seldom occurs in depth intervals of 100 ft. or less, this method is as accurate as can be possibly obtained consistent with good practice.

If records are taken at intervals greater than 100 ft. or when the change in inclination is great, or if there are large changes in the direction, corrective measures must be applied by assigning averaged angular increments to equally spaced sections of the course length.

To locate any point of the course of a hole it is necessary to know its true vertical depth, its latitude, and departure.

The true vertical depth is obtained by multiplying the course length by the cosine of inclination (Fig. 5). The course deviation is the product of the course length by the sine of the angle of inclination. The departure (east or west position) is obtained by multiplying the course deviation with the sine of the bearing angle and the latitude (north-south position) is the product of the course deviation with the cosine of the bearing angle (Fig. 4).

All these functions, which can be obtained from specially prepared tables, are tabulated in a working sheet (Fig. 6) from which a map of the course of the hole is plotted in three projections.

Directional Drilling

Directed drilling is the controlled steering of the drill stem in the required direction to a given location in the oil sand and has been made possible through the development of reliable well-surveying instruments. The two are closely related as directed drilling cannot be successfully executed unless there is available an accurate and reliable survey of the course of the hole, and a reliable surveying instrument for checking the correct setting of the deflecting tool and the progress of the course of the directed hole to its objective.

Directed drilling, as an economic measure, has three objectives:

1. Straightening crooked holes, i.e., bringing them back to the vertical from a point of excessive angle of deviation from the vertical.

2. Sidetracking lost tools and junk in a hole, to avoid having these fall in later.

3. Objective drilling, to maintain the course of the hole so that it will bottom up at a predetermined location, either under the derrick or offshore to reach an oil sand located beneath the sea (Fig. 7), or to avoid trespass or to deflect a hole to the underside of a salt dome (Fig. 8), or to a point of inaccessible location (Fig. 9), or to drill a plurality of wells from one location or to drill a relief well to kill cratered or burning wells.

The deflecting tools mostly used are the whipstock, the knuckle joint, and the spudding bit. The choice of the tools and bits to be used is determined by the geological and mechanical conditions.

Whipstocks.—These consist of a wedge-shaped steel casting having a ring or collar on top by which the tool is set and also withdrawn from the hole, and a chisel point at the bottom to engage the bottom of the hole and prevent turning. Leaving permanent whipstocks in the hole is undesirable as there is always the possibility that such a whipstock may later drop into the hole. Hence the removable type of whipstock is now most generally used.

The Kothny-Keever whipstock has a curved inner channel with side walls confining the bit in the channel throughout the whole length of its travel against the inner surface, thus preventing the rolling off of the bit. The curved inner channel, contrary to all other types of whipstocks, is in the same vertical axis as the drill pipe, the tapering surface being on the outside. The whipstock is removed from the hole by a "go-devil" operated retrieving sub arranged between the bit and the drill pipe (Fig. 10).

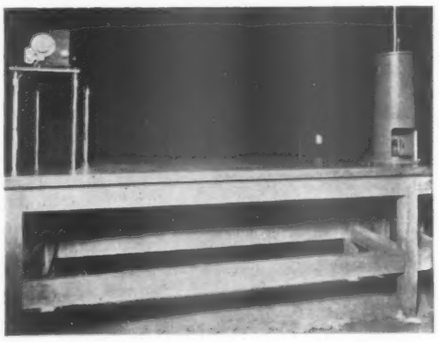


Fig. 13—Instrument used for core orientation

In all these operations the course and deviation of the new hole are checked frequently with directional magnetic single shots and the records obtained from these instruments control and direct every move in the controlled drilling.

The technique of directional drilling has advanced to a point where it has become a thoroughly practical as well as economical procedure. Wells have been successfully drilled at angles in excess of 50° and with a horizontal displacement of about 800 ft. for each 1,000 ft. of vertical depth in all types of formations and under diverse conditions, justifiably proving from an economic standpoint the various applications previously mentioned.

Magnetic Orientation of Deflecting Tools

This new method of orienting deflecting tools in bore holes is not only extremely accurate and requires less time than the heretofore known methods, but also provides a positive and photographic check of the tool's orientation at the bottom of the hole or at the place where deflection is desirable.

The orientation is accomplished by the use of

TEXACO DEVELOPMENT CORPORATION

PATENT LICENSES IN THE PETROLEUM FIELD

TEXACO DEVELOPMENT CORPORATION

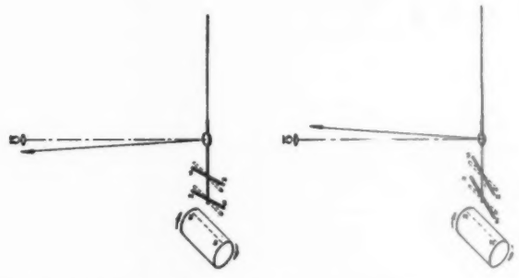
A Subsidiary of The Texas Corporation

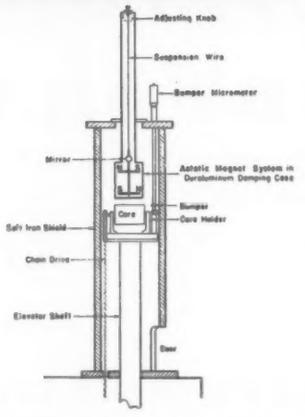
26 Journal Square • Jersey City, N. J.

either a magnetic or nonmagnetic sub provided with two small magnets (north and south) and with a seat for seating a directional magnetic single-shot instrument in such position that the compass recording the position of the deflecting tool is located diametrically opposite to the magnets in the sub.

The relative azimuthal position of the magnets and the deflecting tool in the assembly drill string is known or determined prior to lowering the drill string into the hole. If the magnetic single-shot instrument is lowered and seated in a sub after the drill stem has been lowered to the depth at which deflection is to begin, the compass of the single shot will be attracted by the magnets of the sub and a record obtained with this single shot will indicate the position of the deflecting tool.

A nonmagnetic sub of sufficient length to keep





Right Below: Fig. 14—Core holder used in core-orientation machine. Left below: Fig. 15—Mirror attached to magnet suspension in core-orientation machine. Right: Fig. 16—Core is ground to a cylinder and reference marks placed on it before it is tested

the single-shot instrument outside of magnetic fields of the drill pipe and deflecting tool is inserted between the deflecting tool and the drill stem (Fig. 11). Two magnets and a seating arrangement for the directional magnetic single shot are provided in this sub. Prior to lowering the drill string the relative azimuthal position between the deflecting tool and the magnets in the sub is determined. The single-shot instrument used in connection with the nonmagnetic sub has in place of the inclination unit a second compass unit of the shadowgraph type. This compass unit is interchangeable with the inclination unit.

The single-shot compass seated in the nonmagnetic sub is in such position that the shadowgraph compass is located diametrically opposite the magnets of the sub while the magnetic north compass is located above the magnets and outside of their magnetic influence. When using an H-K directional single shot the floating compass records the earth's magnetic north and the shadowgraph compass, which replaces the inclination unit, indicates the azimuthal position of the deflecting tool. A direct-reading photographic record of the position of the deflecting tool is thus obtained (Fig. 12).

Experience with this method in field operation has shown that orientation of deflecting tools is made accurately with 0.5°. Also considerable rig time is saved since it is not necessary to orient the drill stem, and the operations are entirely controlled by one man. Also, with this method, the operator, before starting on his deflection work, has positive proof that the deflecting tool is oriented in the hole in the proper direction in which he desires to proceed with drilling.

Polar Core Orientation

By this method the direction of the dip of the core sample is obtained from the magnetic properties the sample acquired from the earth magnetic field.

The value of knowing the true dip of formations or fault planes is of very great value in the solution of geological problems and in exploratory work.

Many minerals acquire and retain a certain amount of polarity. Magnetite and pyrrhotite are highly magnetic, glauconite, ilmenite, chromite, and almandine are moderately magnetic. Sedimentary formations such as pure limestones, anhydrites and dolomites show no polarity.

The term polarity as used here is the property of a mineral which enables it to acquire and retain the polarity of the earth's field. Susceptibility on the other hand is that property of a mineral which enables it to acquire a magnetic field but not to retain it after the mineral is removed from the field.

The effect of susceptibility is of importance in the polar core orientation. Cores usually consist of a heterogeneous mass of various minerals, some of which retain the earth's polarity and others with different grades of susceptibilities.

When testing a core the minerals of high susceptibility will temporarily pick up a field from the magnets of the instrument and cause a reaction which may tend to mask the true polarity of the polarized minerals in the core.

Since the effects of susceptibility vary inversely as the sixth power of the distance between magnets and the core and the polarity only varies inversely as the third power of this distance, it is possible to detect and to eliminate the undesirable effects of susceptibility by increasing the gap between the magnets and the cores tested.

The instrument used for determining the orientation operates automatically, is self-checking and operates electrically. It is assembled on a large oak table with the magnetic system on one end and the recording system on the other (see Fig. 13).

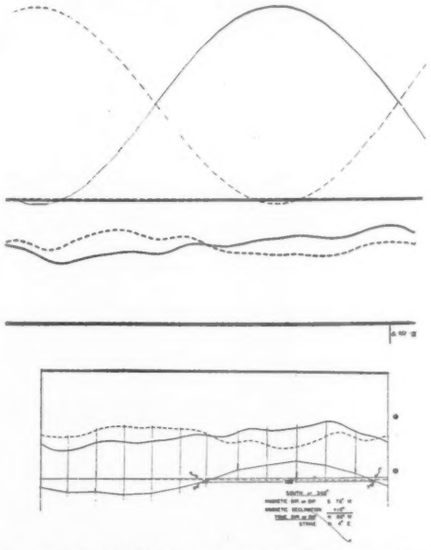
The core, held in a coreholder (Fig. 14), rotates in a horizontal position below an astatic magnetic system one full revolution in about 30 minutes. A small mirror is attached to the magnet suspension and a small light originating from the recording system is directed at the mirror. This light is reflected by the mirror back to the recording system, recording every movement of the magnets on sensitized recording paper mounted on a drum, which revolves in unison with the core, (Fig. 15).

Only cores with good bedding planes should be selected. They must be marked correctly as regards their top. This should be done at the time the core is taken out of the core barrel. Core samples must also never be placed in close proximity to any electrical or strong magnetic field, as the residual polarity in the cores may thus be distorted or entirely destroyed.

Upon receipt of the core samples these are ground to a perfect cylinder with parallel faces to each other and perpendicular to the longitudinal axis of the core. The original marking for the top and dip are preserved (Fig. 16) and from this a line representing the dip is marked across the top of the ground core.

The core is then placed in the coreholder. A zero line is marked on the top of the core at right angles to the line indicating the dip, 90° clockwise from the arrow, and this line is projected down the side of the core and across the bottom and accurately centered so that it will be correctly aligned with the magnetic system. A sheet of sensitized paper is placed on the recording drum and the drum is set at zero. The room is put in darkness and switch is thrown which sets in motion the synchronous rotation of the core and the recording drum.

When the core has made one complete revolution a warning bell announces the end of the test. The core is turned end for end in the coreholder, thus reversing it in relation to the magnetic system, and another run is made. The first is called forward and the second is called reverse

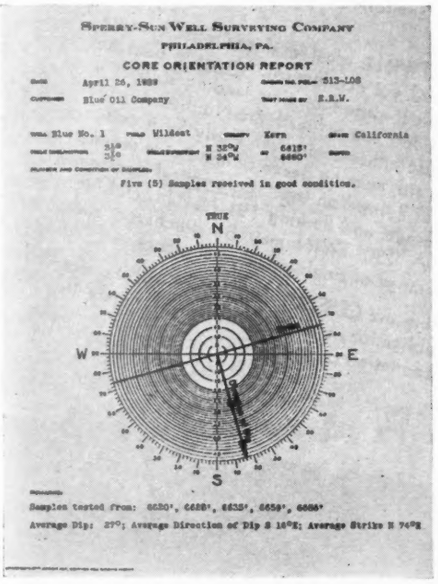


Upper: Fig. 17—Ideal curve representing true polarity is a sine curve. Middle: Fig. 18—Satisfactory curve is smooth and resembles sine curve. Lower: Fig. 19—Interpretation of curve obtained in core-orientation machine

run. The forward-run curve is recorded solid black; the reverse-run curve is recorded in one dashed line. The ideal curve representing true polarity would be a sine curve (see Fig. 17). Such curve is, however, never obtained, due to the effects of susceptibility. As long as the curves are smooth and resemble true sine curves the test is

satisfactory (Fig. 18). The curves are interpreted by subtracting the reverse curve from the forward curve. In doing this the effect of susceptibility is practically eliminated, since susceptibility reacts on the magnets in one direction. The resultant curve (Fig. 19) is read by measuring a 180° segment between the slopes of the curve parallel to the abscissa. The intersection of this segment with the down slope of the curve determines magnetic south. The beginning of the recording curve represents the point at which the zero line is marked on the core itself. Therefore, the number of degrees magnetic south may be located from this zero point is measured directly on the recorded curve and applied to the core itself.

Corrections for the inclination and direction of the hole at the depth from which the cores are


SPERRY-SUN WELL SURVEYING COMPANY
PHILADELPHIA, PA.

CORE ORIENTATION REPORT

Date April 26, 1939 Orders No. Pole 513-108

Company Blue Oil Company Tests made by R.R.W.

Well Name No. 1 Farm Wildcat County Kern State California

Field Subdivision 2½0 Well Location N 32°W 6413'
2½0 N 34°W 6660'

Elevation and Condition of Derrick

Five (5) Samples received in good condition.

Samples tested from: 6630', 6628', 6635', 6659', 6656'

Average Dip: 27°; Average Direction of Dip S 16°E; Average Strike N 74°E

Fig. 20—Completed record of core orientation on a well

taken as well as correction taking into consideration the magnetic vector of the earth must be also made to obtain the true angle and direction of the dip.

The final results are reported on letter-size sheets of convenient form (Fig. 20) on which all pertinent data are listed.

The advantages of this method of core orientation can be summarized as follows:

It is rapid and inexpensive compared to the use of orienting core barrels.

No drilling time is lost running in and out of hole with orienting core barrel, where sometimes several cores are taken with negligible results.

Cores to be oriented by this method can be hand-picked out of core trays and chosen for desirable bedding planes and suitable sizes.

If a well is several thousand feet deep and it is desired to orient cores from higher up in the hole, this can easily be done provided such cores are available.

By frequently orienting cores from the same well, changes in direction of dip can be quickly determined. These changes may be due to faulting, unconformities, or the crossing of the axis of an asymmetrical anticline.

A series of three to five cores covering a vertical depth of about 100 ft. will give the average direction of dip upon which reliance can be placed.

Cores can be shipped from any distance when properly packed and shielded from any direct or alternating current field, or from any stray magnetic field.

Suggested Field Practices—No. 3 . . .

Increased Efficiency Through Use of Smaller Pumps

By T. P. SANDERS

IN wells pumped on the beam, more production is lost due to installing pumps that are too large than because of using pumps too small. Two general classes of wells commonly fall victim to inefficient operation due to choice of unnecessarily large pumps. These are:

1. Deep wells, where the string of sucker rods is more than 4,000 ft. long. In such wells a larger plunger causes greater rod stretch so that a point is soon reached where the loss in stroke length due to rod stretch more than offsets the advantage gained by the larger plunger diameter. Of course this condition may be overcome by speeding up the pump to such a degree that the rod stretch will result in overtravel rather than undertravel, but this places an excessive load on the rods. Since rods in deep wells are seldom able to withstand additional stress, frequent breakage is likely to occur so that the advantage gained in production rate will be lost in down time.

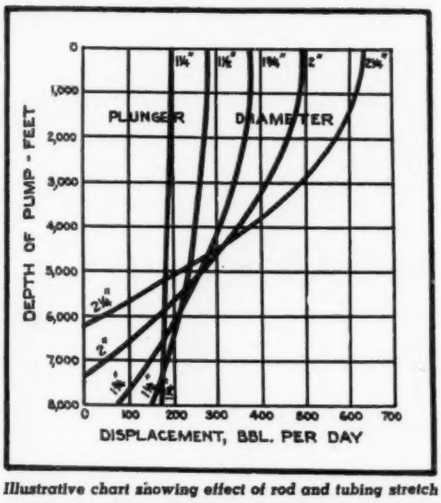
2. Any well in which a pump-off condition occurs. Ideal operation of a low-capacity well calls for steady pumping so that the fluid level will be maintained at a low level 24 hours per day. If, instead, the well is pumped off periodically and a column of fluid is allowed to build up in the hole between pumping periods, then the hydrostatic pressure of the fluid column opposes the entry of fluid into the hole. In slowing down the production rate to make 24-hour pumping possible, it is common to reduce the length of stroke or the number of strokes per minute. If a smaller pump is installed, the polished-rod load is reduced and slippage past the plunger is not encouraged. Also, if pounding on the fluid does occur, the smaller plunger minimizes the shock on equipment.

Pumping Deep Wells

On Pages J-19 through J-21 of the Producing Equipment Directory a procedure is outlined for determining the plunger size that will give greatest production in a deep well, taking into account well depth, pumping speed, length of stroke, rod size, tubing anchorage, and gravity of fluid lifted. Because of the number of variables to be considered, it is impractical to make a chart or table to show optimum plunger diameter under all conditions. The accompanying chart presents this information for one set of typical conditions, illustrating the loss of production that takes place when the plunger is too large. Admittedly charts made for other speed and stroke conditions would show somewhat different results, and if sucker-rod harmonics were considered any such chart would be much less regular in shape. However, pumps are seldom selected for operation at a given speed and stroke, and since the chart was made for a typical speed and stroke, it can be employed from a practical point of view to indicate roughly the ranges in which the larger-sized plungers are to be avoided.

Considering only the cases in which the rod string, or its lower portion, is made up of ¾-in. rods, it has been found that results obtained by the Producing Equipment Directory procedure (referred to above)) agree quite closely with the chart data. Also, there is considerable field information to support these data. For example, the 6,400-ft. Oklahoma City wells were quite commonly equipped with 2-in. plungers when first put on the beam. Operating results have since proved that more production is obtained with a 1½-in. plunger in nearly all cases.

For practical purposes the following table has been made, which is intended to show approximately the maximum plunger size which should be used when the rod string or its lower portion is made up of ¾-in. rods. For reasons mentioned



Illustrative chart showing effect of rod and tubing stretch on plunger displacement when pumping twenty 54-in. strokes per minute in 2½-in. tubing with ¾-in. rods. (After Bruce Robinson, A.P.I. Drilling and Production Practice)

above, these data will not prove true for all cases, but unless special attention is given to the individual case, these limits should be observed.

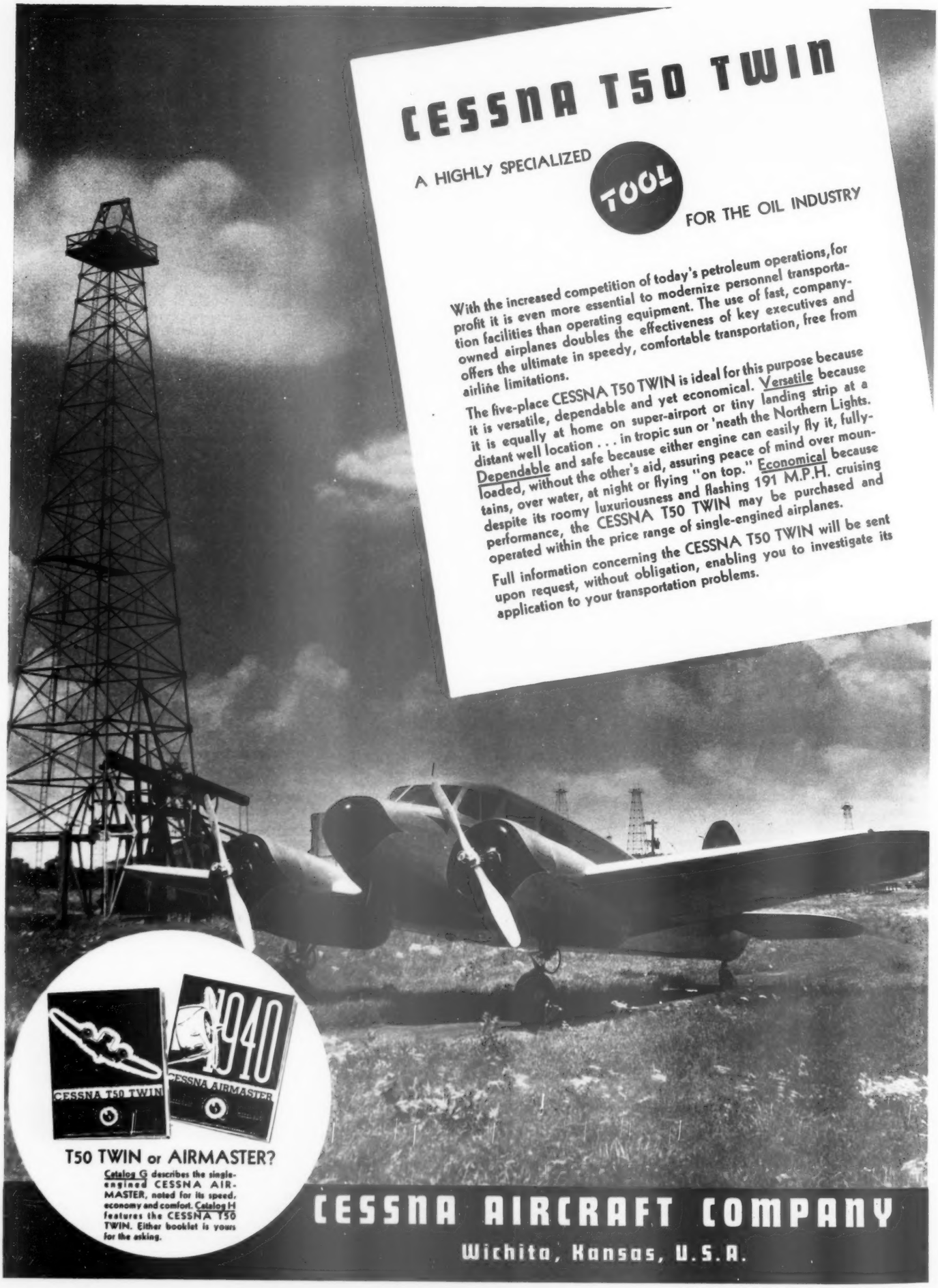
APPROXIMATE MAXIMUM PLUNGER SIZES FOR WELLS OF VARIOUS DEPTHS

(Rod string, or its lower portion, made up of ¾-in. rods.)

Depth of pump setting (ft.)	Max. plunger diameter (in.)
4,000	2¼
4,500	2
5,000	2
5,500	1¾
6,000	1¾
6,500	1½
7,000	1½
7,500	1¼
8,000	1¼

Pumping Low-Capacity Wells

Many field men contend that it is necessary to pound fluid while pumping off a low-capacity well to obtain maximum production. This is probably true, but only because fluid enters the hole against least resistance when the well is pumped down and therefore pounding fluid. If the fluid can be held at a low level 24 hours per day by steady pumping, as much or more production is usually obtained even though the plunger is not pounding fluid. However, the greatest benefit usually derived from avoiding fluid pound is reduction of equipment failures.


CESSNA T50 TWIN
A HIGHLY SPECIALIZED TOOL FOR THE OIL INDUSTRY
With the increased competition of today's petroleum operations, for profit it is even more essential to modernize personnel transportation facilities than operating equipment. The use of fast, company-owned airplanes doubles the effectiveness of key executives and offers the ultimate in speedy, comfortable transportation, free from airline limitations.
The five-place CESSNA T50 TWIN is ideal for this purpose because it is versatile, dependable and yet economical. Versatile because it is equally at home on super-airport or tiny landing strip at a distant well location . . . in tropic sun or 'neath the Northern Lights. Dependable and safe because either engine can easily fly it, fully-loaded, without the other's aid, assuring peace of mind over mountains, over water, at night or flying "on top." Economical because despite its roomy luxuriousness and flashing 191 M.P.H. cruising performance, the CESSNA T50 TWIN may be purchased and operated within the price range of single-engined airplanes.
Full information concerning the CESSNA T50 TWIN will be sent upon request, without obligation, enabling you to investigate its application to your transportation problems.
1940
CESSNA T50 TWIN
CESSNA AIRMASTER
T50 TWIN or AIRMASTER?
Catalog G describes the single-engined CESSNA AIRMASTER, noted for its speed, economy and comfort. Catalog H features the CESSNA T50 TWIN. Either booklet is yours for the asking.
CESSNA AIRCRAFT COMPANY
Wichita, Kansas, U.S.A.

FIELD OPERATIONS

Summarizing the Week's Developments

ILLINOIS—With new fields in prospect in Hamilton and Washington counties, a 12,000-bbl. well in Centralia's Devonian pay and an all-time peak in production, the long expected decline in Illinois' production has been postponed.

KANSAS—A Lansing lime oil pool was opened 2½ miles southeast of Bunker Hill, Russell County. A new chat gas area was found at a wildcat 5 miles northeast of Arkansas City, Cowley County, but the crew drilled ahead in search of oil in Arbuckle lime. A wildcat was started in Nemaha County, Kansas, sector of the Forest City basin.

OKLAHOMA—A wildcat on the east edge of Guthrie, Logan County, found saturation in Wilcox sand cores and was to be tested this week. If it produces, a townsite drilling campaign will follow. Hunton lime production was believed proven for the Coyle pool, Payne County, although the discovery well was showing water.

LA-ARK-TEX—Gas was discovered 4½ miles north of the new Olla field in La Salle Parish, Louisiana, and good shows of oil in the Cotton Valley formation in a Union County, Arkansas, wildcat indicate that it will find oil production in the deep Smackover formation.

SOUTHWEST TEXAS—Skelly Oil Co.'s wildcat in Kleberg County appears likely to bring in the second pool in that county, both being offshore. Another submerged field has been opened by Humble in Nueces Bay. A 9,335-ft. distillate well proved the St. Charles prospect, Aransas County.

TEXAS GULF—As new fields are opened in the Liverpool area, Brazoria County, the Blessing area, Matagorda County, prospective pool openers are being closely watched in the Bailey's Prairie area, Brazoria County, The Red Fish Reef prospect, Galveston County, and the Sun's test north of Seabreeze in Chambers County.

WEST TEXAS—Prospects of oil production at two closely watched wildcat tests in Crane County, together with indications of new field discoveries at wildcats in Concho and Winkler counties, led the developments of the week in the West Texas district.

WEST CENTRAL TEXAS—New wildcat locations, the greatest number in one weekly period in several months, led the interest of the week in the West Central Texas area. A total of seven wildcats were staked in as many different counties.

NORTH TEXAS—The prospects of a new field discovery just east of the town of Nocona in Montague County furnished the latest news of the Fort Worth basin play throughout North Texas. The indicated discovery drilled saturation in the typical Bend conglomerate and prepared to test as the week closed.

EAST TEXAS—After several months of slow development, the Chapel Hill deep Pettit lime field in Smith County received a drilling program during the past week.

SOUTHEAST NEW MEXICO—Leading all field developments for a weekly period in several months, the Southeast New Mexico district registered a total of 7 new locations and 21 completions. Eighteen of the completions were oil wells, one a gas well and two dry holes.

Completions in All Fields

(Week Ended June 29, 1940)

	Oil	Gas	Dry	Total	1940 total comp. to date	1939 total comp. to date
N. Y., Pa., and W. Va.	65	7	6	78	1,947	1,536
Ohio	10	16	16	42	555	466
Indiana	7	1	0	8	181	111
Kentucky	5	2	9	16	242	315
Illinois	84	0	16	100	1,824	1,714
Michigan	10	0	7	17	636	651
Kansas	31	2	4	37	833	581
Oklahoma	12	1	17	30	911	906
Texas:						
North Central Texas	35	1	12	48	1,571	1,195
West Texas	33	0	2	35	1,102	931
Texas Panhandle	8	0	0	8	293	192
East Texas	2	0	0	2	134	258
East Central Texas	2	0	1	3	130	129
East Texas Border	0	0	0	0	34	35
Gulf Coast Texas	21	0	6	27	662	684
Southwest Texas	31	1	9	41	1,147	1,182
Total Texas	132	2	30	164	5,073	4,606
North Louisiana	11	1	1	13	305	262
Gulf Coast Louisiana	13	0	5	18	464	294
Total Louisiana	24	1	6	31	769	556
Arkansas	1	0	0	1	102	121
Montana	3	0	0	3	90	70
Wyoming	3	1	0	4	74	45
Colorado	2	0	0	2	11	4
New Mexico	19	1	2	22	350	297
California	19	1	2	22	544	460
Total United States	427	35	115	577	14,142	12,439
Total previous week	422	52	121	595		
Week ended July 1, 1939	362	35	114	511		

Outstanding Fields—Highlights

(Week Ended June 29, 1940)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	10	43	5	4,952	1,401	39,557
Wasson-Bennett	18	50	8	3,266	296	8,142
Ector County	19	46	8	7,506	860	27,697
Pecos County	18	64	17	13,899	2,193	43,958
Jones County	7	15	6	906	634	7,800
East Texas	3	8	2	133	26,004	298,297
OKLAHOMA						
Oklahoma City	0	12	1	5	854	102,150
Cement	1	15	0	0	312	7,250
KANSAS						
Bemis	1	8	1	350	322	9,600
Burnett	1	11	2	700	101	6,745
Silica	0	10	0	0	635	11,300
Trapp	2	12	2	1,604	550	13,100
NEW MEXICO						
Lea County	15	39	10	4,820	2,499	90,530
Eddy County	6	52	8	1,004	586	16,150
LA-ARK-TEX						
Cotton Valley, La. (deep)	0	3	0	0	161	14,475
Olla, La.	0	13	2	210	16	1,680
MICHIGAN						
Allegan County	9	29	3	425	497	7,486
Kent County	2	16	0	0	0	13,180
CALIFORNIA						
Montebello	0	15	0	0	348	21,850
ILLINOIS						
Salem	5	86	38	31,083	2,110	228,065
Centralia	8	49	18	50,493	326	124,970
Louden	4	39	11	1,520	1,527	73,104
Other basin fields	43	203	28	5,998	2,195	81,059
Old fields	....	.....	....	.....	.....	11,026
MISSISSIPPI						
Tinsley	2	6	2	628	60	8,500

Illinois, Indiana and Kentucky

By STAFF CORRESPONDENT

11,820 Bbl. Well High Spot Of Illinois Peak Production

Gulf Oil Corp.'s No. 3 Adams-Felton, SE NE NW 1-1n-1w, came in with an initial production of 11,820 bbl. to mark the high spot of Illinois' largest week. The state's average daily production for the week ending June 29, 1940, was 518,224 bbl., of which the Centralia field contributed 124,970 bbl. Salem's daily production declined from 237,101 to 228,065 bbl.

Gulf's No. 1 Buhl, NW SE SW 23-1s-1w, Washington County, is being watched with great interest. Although not yet completed, it swabbed 184 bbl. in 4 hours from Benoist sand or at the rate of 1,104 bbl. per day. It appears to be the largest producer yet drilled in Washington County.

Another discovery is the Kingwood Oil Co.'s No. 1 F. M. Morris, W½ SW SE NE 34-5s-6e, in McLeansboro Township, Hamilton County. This well was plugged back from a total depth of 3,231 to 3,171 ft. and filled 1,000 ft. in 2 hours after perforating at 3,154-62 ft. It began to flow but was shut in for storage. The producing formation is a lime, but it has not yet been decided whether it is the McClosky or the Rosiclare.

Clinton-Marion Counties

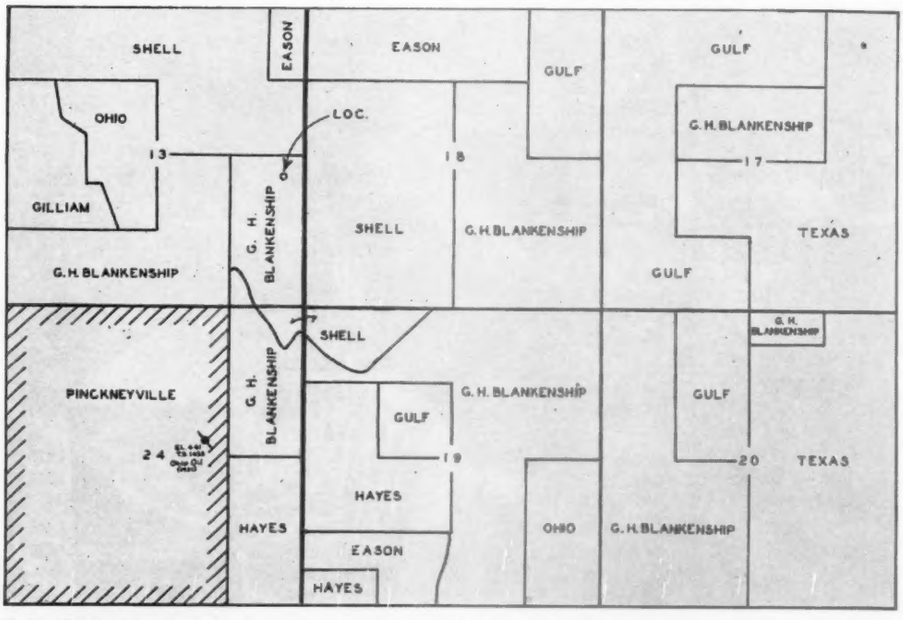
Centralia Field—Devonian Completions

Gulf, 5 M. Felton . . . . . S½ NW SW NE 35-2n-1w
Flowed 11,820 bbl., acid, T.D. 2,905 ft.
Thompson Drlg., 1 Lippert . . . . . SE NE NE 35-2n-1w
Flowed 150 bbl. hr. natural, 2,840 bbl. and 150 bbl. water, acid. Pay 2,922-30 ft.
Tuesday Oil, 5 Buehler . . . . . W½ NW SW 35-2n-1w
Flowed 7,296 bbl., acid, 2,910-20 ft.
Gulf, 2 Adams Kiester . . . . . E½ SE SE 2-1n-1w
Flowed 4,335 bbl., acid, 2,888-2,902 ft.
Gulf, 1 Perry Kiester . . . . . W½ SE SE 2-1n-1w
Flowed 1,594 bbl. and 900 bbl. water, acid, 2,858-2,905 ft.
Gulf, 4 Buehler Comm . . . . . E½ NW NW 1-1n-1w
Flowed 2,112 bbl., acid, 2,837-74 ft.
Gulf, 2 Adams Felton . . . . . SE NE NW 1-1n-1w
Flowed 3,760 bbl., acid, 2,876-89 ft.
Ring & McLean, 3 F. Hansemann . . . . . NE SW SE 1-1n-1w
Flowed 630 bbl., acid, 2,911-19 ft.
Ring & McLean, 4 F. Hansemann . . . . . NE SW SE 1-1n-1w
Flowed 879 bbl., acid, 2,908-19 ft.
Ring & McLean, 5 F. Hansemann . . . . . NE NW SE 1-1n-1w
Flowed 1,291 bbl., acid, 2,881-91 ft.
Samedan, 2 Lippert-Felter . . . . . NE SE NW 1-1n-1w
Flowed 960 bbl., acid, 2,869-82 ft.
Samedan, 3 Lippert-Felter . . . . . NE SE NW 1-1n-1w
Flowed 752 bbl., acid, 2,872-87 ft.
Sims, 1 J. C. Dunn . . . . . SW NW NE 1-1n-1w
Flowed 2,262 bbl., acid, 2,878-85 ft.
Shell, 13-C Calley . . . . . W½ NE NE 1-1n-1w
Flowed 4,603 bbl., acid, 2,876-96 ft.
Shell, 11-C Buehler . . . . . W½ NW NW 12-1n-1w
Flowed 4,729 bbl., acid, 2,902-13 ft.

Salem Field—Devonian Completions

Harvey Oil, 7-B Kogey . . . . . SW SE SE 33-3n-2e
Pumped 200 bbl., acid, 3,550-60 ft.
Texas, 33 E. Jett . . . . . NE SE SW 16-2n-2e
Flowed 950 bbl., acid, 3,505-15 ft.
Texas, 34 E. Jett . . . . . SE SE SW 16-2n-2e
Flowed 959 bbl., acid, 3,505-14 ft.
Magnolia, 38 W. B. Young . . . . . NW NE SW 21-2n-2e
Flowed 728 bbl., acid, T.D. 3,526 ft.
Marvel, 4 Lee Strip . . . . . SW NE SW 28-2n-2e
Flowed 148 bbl. 12 hr., shot and acid, 3,425-64 ft.
Ohio, 33 Loyal . . . . . NW SE SW 28-2n-2e
Flowed 2,047 bbl. 20 hr., acid, 3,466-74 ft.
Texas, 25 J. Chapman . . . . . SW NE SW 28-2n-2e
Flowed 224 bbl., acid, 3,444-65 ft.
Texas, 14 C. Kleinschmidt . . . . . SW SW NE 28-2n-2e
Flowed 664 bbl., acid, 3,503-09 ft.
Texas, 15 F. Lee . . . . . NE SE SW 28-2n-2e
Flowed 300 bbl., acid, 3,443-68 ft.
Texas, 31 W. Friedrich A. . . . . SE NE NE 30-2n-2e
Flowed 500 bbl., acid, 3,536-52 ft.
Texas, 18 T. Stroup . . . . . NE NW SE 30-2n-2e
Flowed 4,693 bbl., acid, 3,456-3,505 ft.
Texas, 19 T. Stroup . . . . . SW NW SE 30-2n-2e
Flowed 2,000, acid, 3,423-62 ft.
Texas, 25 W. Stroup . . . . . SW NW SE 30-2n-2e
Flowed 1,500 bbl., acid, 3,438-76 ft.
Texas, 3 J. Wooter . . . . . SW NE SW 30-2n-2e
Flowed 1,588 bbl., acid, 3,450-84 ft.
Texas, 4 J. Wooter . . . . . SE NE SW 30-2n-2e
Flowed 1,140 bbl., acid, 3,488-3,522 ft.
Texas, 17 J. Carroll . . . . . NW SW SE 31-2n-2e
Flowed 1,052 bbl., acid, 3,380-92 ft.
Texas, 24 M. Williams . . . . . NW SE SE 31-2n-2e
Flowed 1,242 bbl., acid, 3,305-40 ft.
Texas, 21 S. Stonecipher . . . . . NW SE SW 32-2n-2e
Flowed 1,347 bbl., acid, 3,367-3,415 ft.
Texas, 25 M. Williams . . . . . NE SW SW 32-2n-2e
Flowed 1,425 bbl., acid, 3,340-70 ft.
Texas, 8 D. Buckley . . . . . NW NW SE 33-2n-2e
Flowed 507 bbl., acid, 3,509-36 ft.
Texas, 18 T. Easley . . . . . SW SE NW 33-2n-2e
Flowed 948 bbl., acid, 3,499-3,530 ft.
Texas, 19 T. Easley . . . . . SE SE NW 33-2n-2e
Flowed 875 bbl., acid, 3,523-49 ft.
Texas, 20 Easley . . . . . SW SW NE 33-2n-2e
Flowed 926 bbl. 8 hr., acid, 3,523-49 ft.
Texas, 7 F. Lazaretti . . . . . SW SW SW 33-2n-2e
Flowed 1,522 bbl., acid, 3,480-3,515 ft.
Texas, 10 S. McCoy . . . . . NE NE NW 33-2n-2e
Flowed 605 bbl., acid, T.D. 3,380 ft.
Texas, 28 L. Hawthorne . . . . . NW SW SE 5-1n-1e
Pumped 121 bbl. 11 hrs., acid, 3,401-55 ft.
Texas, 28 O. Jackson . . . . . NE NE SW 5-1n-1e
Flowed 694 bbl., acid, 3,372-3,428 ft.
Texas, 30 V. Kalkbrenner . . . . . NE NE SW 5-1n-1e
Flowed 120 bbl., acid, 3,405-42 ft.
Steel, 1 Foster . . . . . NW SW SW 11-1n-2e
Old well drilled from 2,277 to 3,785 ft. Top Devonian 3,694 ft. Dry.
Hollingsworth, 13 Kalkbrenner . . . . . NE NE SW 5-1n-1e
Flowed 850 bbl., shot, 3,384-3,442 ft.

(Continued on Page 72)



G. H. Blankenship, Centralia operator, is starting a wildcat at No. 1 Pinckneyville Park, Section 13-5s-3w, on the edge of the town of Pinckneyville, Perry County. Location is on the Pinckneyville anticline, described and recommended for testing by the State Geological Survey in Petroleum Bulletin No. 19. Structure was proven by a test drilled by Ohio Oil Co. in Section 24-5s-3w, which tested Benoist sand. The Blankenship well, which will be drilled to the Devonian formation unless profitable production is found higher, is thought to be about 100 ft. higher on structure than the test in Section 24. The new wildcat is on an Ohio farmout and is supported by Shell Oil Co. Mr. Blankenship, who discovered the Cordes pool in Washington County, has large lease holdings in Perry County

INDIANA

EVANSVILLE, Ind., July 1.—Seven oil wells were completed in the southwestern fields in Gibson and Posey counties in the past week in review. One dry hole outpost was reported in Gibson County.

Gibson County

In Gibson County Lewis Production Co. completed No. 8 Cooper-D, NE SE NW Section 13-3s-14w, in the Griffin pool. It was shot with 15 qt. at 2,490-97 ft., and pumped 147 bbl. in 24 hours. Lewis' No. 9 Cooper, SE NE NW Section 13, was also completed. It flowed 250 bbl. in 24 hours, following a 20-qt. shot at 2,484-96 ft.

Papoose Oil Co. completed No. 6 Cooper-A, NW NW SW Section 13-3s-14w. It was shot with 10 qt. at 2,480-87 ft. and swabbed 70 bbl. the first 24 hours. Hall Edwards' No. 1 Maier, SE SE SE Section 14-3s-14w, flowed 420 bbl., naturally, in 24 hours from Cypress sand at 2,479-91 ft. and was completed.

A. L. Braden and others' No. 1 Knight, NE cor. SW SW Section 2-2s-11w, Ste. Genevieve lime at 2,126 ft., hole full of water at 2,180-2,208 ft., total depth, abandoned as dry.

L. B. Jackson and others' No. 1 Barthold, NW NW SW Section 23-2s-9w, was drilling at 1,790 ft. It had Ste. Genevieve lime top at 1,595 ft., and water at 1,715-20 ft., and a hole full of water at 1,750 ft. Same operators' No. 1 Keeton, NW cor. NE NE Section 15-2s-9w, has a machine on location. Brown and others' No. 1 Sullivan, SE NW SW Section 20-3s-13w, rig up. Hall and others' No. 3-B Maier, SE NE SE Section 14-3s-14w, 1,500 ft. of oil in the hole at a total depth of 2,097 ft. Five-inch casing was set at 2,078 ft.; crew was preparing to shoot.

New operations in the county include Papoose Oil Co.'s No. 7 Cooper-A, NE SW SW Section 13-3s-14w, set 10-in. casing at 136 ft.; Lewis Production Co.'s No. 1 Dunn, 990 ft. from south line and 3,400 ft. from east line of SW Section 18-3s-13w (an extended section), shooting with 30 qt. at 2,080-94 ft., Waltersburg sand; Hall & Edwards' No. 3-A Maier, 1,702 ft. from south and 330 ft. from east lines of Section 14-3s-14w, drilling at 1,436 ft.; Apex Drilling Co.'s No. 1 Skiles, SW NW NE Section 18-3s-13w, old total depth 2,570 ft.,

(Continued on Page 57)

EASTERN KENTUCKY

ASHLAND, Ky., July 1.—One oil well and two gas wells were completed in eastern Kentucky last week. Other operations in this part of the state remain on the same general level.

The Kentucky-West Virginia Gas Co. has completed No. 586 on the Levi Mitchell land on Mitchell Branch of Mud Creek in Floyd County, at a depth of 3,426 ft.

(Continued on Page 61)

Oklahoma Operations

By
DAL DALRYMPLE

Wildcat Near Guthrie Finds Saturation in Wilcox Cores

Major interest in Oklahoma field activity the past week centered at Guthrie in Logan County, where a wildcat just 2 blocks east of the city limits gave promise of opening a Wilcox sand pool. It was Eason Oil Co. and O. A. Walter's No. 1 Carrie Wells, NE NW NE Section 15-16-2w, which was due to be drilled in this week.

First Wilcox sand was topped at 5,819 ft. and 8 ft of saturation was found in a core at 5,824-37 ft., total depth. Casing was set on top of Simpson dolomite at 5,785 ft. Showings of oil previously had been found in Misener sand topped at 5,515 ft. and Hunton lime found at 5,527 ft. The structure is thought to lie principally in a northwestern direction from the wildcat and probably underlies a large portion of the city of Guthrie. Most of the acreage on the east side of the city has been leased and the city council has passed an ordinance regulating drilling to one well to the city block.

An outpost at the south end of the old Lovell pool, Logan County, gave promise of reviving that sector. The H-P Gas Co.'s No. 1 Matherson, SW SW SW Section 34-18-4w, topped Layton sand at 4,804 ft., found saturation in cores to 4,864 ft., and 6⅝-in. casing was set at 4,804 ft. Contract depth is 4,900 ft.

The Hunton lime zone was proven productive in the Coyle field, Payne County, although water displaced oil in the discovery well, Helmerich & Payne, Inc. and others' No. 3 Collins, W½ NE NW Section 13-17-1e, at the south end of the field. It had small production in Wilcox sand at 4,869-86 ft., was plugged back and perforated in the Hunton zone at 4,605-20 ft. It started flowing 77 bbl. of oil in 28 minutes, and continued to average 25 bbl. of oil an hour while running tubing. After tubing was run, the crew began swabbing and water intruded. Operators were attempting to determine the source of the water. Geologists believe that wells farther north in the pool and higher on structure will be productive in Hunton zone.

Among the Wildcats

Comail Oil Co., Haskin and others' No. 1-A Meyer, NW SE SE Section 17-17-6, about 4 miles southeast of Cushing, Payne County, and near the Lincoln County line, topped Prue sand at 2,874 ft., set 5-in. casing on top of sand, total depth 2,897 ft., in sand, flowed 24 bbl. of oil in 24 hours, with 750,000 cu. ft. of gas.

Allen's No. 1 Freeman, SW SW SE Section 24-19-5, Yale district, Payne County, was dry and abandoned in Wilcox sand at 3,560-3,630 ft., total depth.

Whitehead's No. 1-A Allen, NE NE SW Section 11-4-19, Latimer County, had dry sand at 885-887 ft., total depth 890 ft., and was abandoned.

Scott's No. 1 Masonic Home, NW NW SW Section 13-4s-13w, Cotton County, had nothing showing and was abandoned in sandy lime at 2,505 ft.

Burke's No. 1 Portwood, NW SE NE Section 29-2n-17w, about 4 miles southwest of Snyder, Kiowa County, was abandoned at 397 ft. In the same county Curtiss and others' No. 1 Hunsinger, NW SW SE Section 17-5-15w, was dry and abandoned at 600 ft.

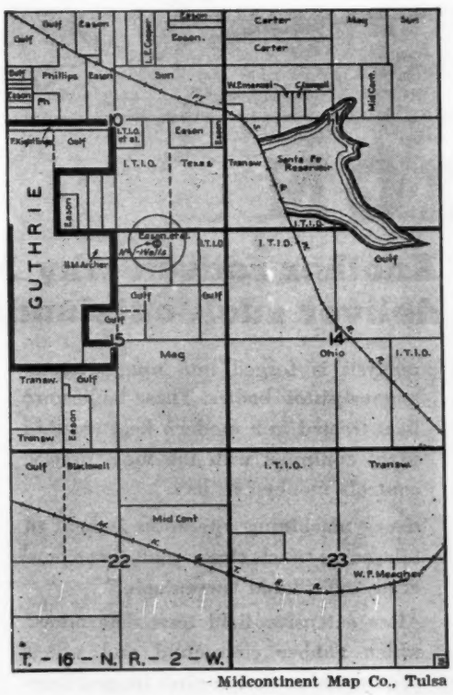
Garr's No. 1 Walker, NE NE SE Section 5-5-5, about 2 miles west of the South Konawa pool, Pottawatomie County, topped Viola lime at 3,080 ft., total depth 3,148 ft., ripped casing without result and was dry and abandoned.

New outpost tests: Garrett's No. 1 Williams, NE NE NE Section 28-2n-4e, near Roff, southwestern Pontotoc County, drilling below 475 ft.; Garrett's No. 1 Thompson, SE SE NW Section 15-13-17, near Oktaha, Muskogee County, rigging up machine; Link Oil Co.'s No. 1 Krolop, SW SW SE Section 14-17-5, near Cushing, Payne County, location; Burke-Greis Oil Co.'s No. 1 O'Keefe, C W½ E½ NW Section 26-19-5, about 2 miles southwest of Yale, Payne County, rigging up rotary tools; Benedum-Trees Oil Co.'s No. 1 State, SW NW NW Section 13-21-6, about 1½ miles west of the Greenup pool, Pawnee County, spudded; Curtiss and others' No. 1-A Hobbs, SE SE NW Section 35-6-17w, about 3 miles southwest of the Komalty, Kiowa County, had gas showing in lime at 567-568 ft., total depth, and may run 7-in. pipe to test gas; Teci's No. 1 Fowler, SE SE NW Section 10-7-18w, about 3 miles northwest of Hobart pool, Kiowa County, drilling below 125 ft.

Greater Seminole Area

W. C. McBride, Inc.'s No. 3 Boy Scouts, SW SW SE Section 7-9-7, East Seminole pool, Seminole County, had Hunton lime at 3,943 ft., set 7-in. pipe at 3,946 ft., total depth 4,036 ft., and pumped 51 bbl. of oil in 24 hours. Other Seminole County completions included: Stanolind Oil & Gas Co.'s No. 1 Aldridge, SE SW NE Section 32-9-8, north of Wewoka, Wilcox sand 4,392 ft., total depth 4,453 ft., dry and abandoned; T. & N. Development Co.'s No. 2 Reed, SE SE NW Section 3-5-5, South Konawa area, Hunton lime 2,606 ft., Sylvan shale 2,791-94 ft., total depth, dry and abandoned; W. A. Villines' No. 3 Millsap, SE NW SW Section 23-7-5, old well in Hazel district, total depth 3,092 ft., shot in Earlsboro sand at 3,070-80 ft., flowed 20 bbl. of oil daily with 500,000 cu. ft. of gas, recompleted.

Southwestern Drilling Co.'s No. 1 Diamond, C E½ NW SE Section 33-9-9, Fuhrman area, Hughes County, Cromwell sand 3,330-90 ft., Wilcox sand 4,255-61 ft., total depth, perforated casing at 3,326-50 ft., gaged 5,750,000 cu. ft. of gas.



Midcontinent Map Co., Tulsa

Eason Oil Co. and others' No. 1 Wells, Section 15-16-2w, wildcat near east edge of Guthrie townsite, Logan County, found saturation in Wilcox sand at 5,819-37 ft., and set casing on top of Simpson dolomite at 5,785 ft. It was reported checking more favorably structurally than a wildcat drilled on the west side of Guthrie

Culbertson's No. 1-A Foreman, CEL SE NW Section 2-13-10, Okfuskee County, had sand at 1,389-3,481 ft., total depth 1,524 ft., dry and abandoned.

Creek-Lincoln Counties

Dunn and others' No. 5 Anthis, NW NE SE Section 34-14-10, East Tuskegee area, Creek County, topped Wilcox sand at 3,278 ft., was shot at 3,277-93 ft., total depth 3,298 ft., and pumped 110 bbl. of oil daily. Kirschner's No. 2 Baker-Kelly, SW NE NE Section 20-17-9, Walker area, had Bartlesville sand at 2,550-58 ft., total depth, was shot and pumped 45 bbl. of oil and 20 bbl. of water daily. Adamson's No. 1 Anthis, NE NW NW Section 15-18-10, had a hole full of water in Bartlesville sand at 2,163-2,225 ft., total depth, and was abandoned. Young's No. 1 Kimble, SE SW SW Section 21-14-10, was dry and abandoned in Wilcox sand at 3,370-90 ft., total depth.

Mid-Continent Petroleum Corp.'s No. 1 Kint, NE NW SE Section 23-17-2e, Lincoln County, was dry and abandoned in Wilcox sand at 4,739-65 ft., total depth. This is in the Perkins pool opened a few weeks ago at Portable Drilling Co.'s No. 1 Teter, NW NW SW Section 24-17-2e, a Hunton lime producer.

Oklahoma County

Olson Oil Co.'s No. 1 Scritchfield, NW NE SE Section 4-12-3w, West Britton pool, Oklahoma County, was completed in Wilcox sand at 6,732-66 ft., total depth. It swabbed 260 bbl. of oil and then pumped 70 bbl. of oil and 35 bbl. of water in 24 hours. Gravity of the oil was 33°.

Indian Territory Illuminating Oil Co.'s No. 10 Bodine, NW NE SE Section 24-11-3w, Oklahoma City field, was completed in Pawhuska sand at 2,963-78 ft., total depth, pumping 5 bbl. of oil and 20 bbl. of water daily.

Southwestern Oklahoma

George Pace's No. 1-A Ginrich, SW NE NW Section 6-5-9w, Cement field, Caddo County, set 5-in. pipe on bottom at 3,640 ft., perforated at 3,360-78 ft., water intruded and it was abandoned temporarily. Ray Stephens, Inc.'s No. 1 Holmberg, NW NE NW Section 28-6-10w, was dry and abandoned at 6,742 ft., total depth.

Jackson County: Navajo Oil Co.'s No. 2 Hensley, SE SW NW Section 10-1n-20w, Altus area, was deepened from 1,529 ft. to 1,537 ft. in granite wash and recompleted, flowing 60 bbl. of oil daily. Aloma Oil Co.'s No. 2 Robertson, SE NE SE Section 15-1n-20w, old well, pumped 25 bbl. of oil daily after deepening from 1,375 ft. to 1,528 ft. Vaughn's No. 8 Stokes, NE NW SW Section 11-1n-20w, old well, was deepened from 1,368 ft. to 1,460 ft. and temporarily abandoned.

Indian Territory Illuminating Oil Co.'s No. 2 Goodwin, NE NE SE Section 1-3s-19w, Frederick area, Tillman County, topped Canyon lime at 3,138 ft., set 7-in. casing on bottom at 3,142 ft., and pumped 189 bbl. of 21.5-gravity oil in 24 hours.

Palmer's No. 6 Goza, SW SE SW Section 19-6s-5w, Jefferson County, was dry and abandoned in Arbuckle lime at 2,019-25 ft., total depth.

Smith's No. 1 Bryan, SW NE SE Section 8-3-5w, Knox field, Grady County, old well bottomed at 2,808 ft., was cleaned out, worked over and pumped 45 bbl. of oil and 30 bbl. of water daily.

Miscellaneous Completions

In Pawnee County Samples' No. 2 Bellis, NW SE NE Section 28-20-9, had Red Fork sand at 2,064-78 ft., total depth, was shot and pumped 5 bbl. of oil daily.

Tide Water Associated Oil Co.'s No. 1 Osage, C S½

(Continued on Page 56)

PRECISION

Another reason why Mission Pump Parts deliver such outstanding performance . . .

PRECISION means dependability—it means long, uniform, trouble-free life for every part—it means safe, low-cost operation *all* the time. Knowing the importance of precision, Mission takes exceptional care to make every part as nearly perfect as modern precision testing instruments will allow.

Take Mission Pistons for Example: **Every operation in making a Mission Piston is a precision operation. High grade alloy steel of *exactly* the right analysis is forged into tough, homogenous piston bodies. These bodies are heat treated in a modern heat treating plant equipped with the most precise controls money can buy.**

Every machining operation is held to tolerances much closer than those generally considered "acceptable."

After extensive field tests determined which rubber compound and which piston rubber design gives longest service, precise specifications are made and rigidly adhered to on every batch of rubbers. Even small variations result in rejection.

Materials, treatment, design and size—Mission checks every step to make *all* Mission Pistons deliver the performance that has made them favorites throughout the world. Mission Manufacturing Company, Humble Road, Houston, Texas. Export Office, 30 Rockefeller Plaza, New York.

SLUSH PUMP - VALVES - PISTONS - PISTON RODS

MISSION

California Field Report

Deep Zone in East Coyote Field Will Revive Activity

By L. P. STOCKMAN

LOS ANGELES, Calif., July 1.—Bartholomae Oil Corp. proved the existence of a new deep productive zone in the west end of the East Coyote field of Los Angeles Basin late last week by completing No. 9 Stern in Section 22-3-10 pumping 172 bbl. of 26.8-gravity oil per day from 6,580 ft., but it was not until early this week that the apparent significance of this new completion became evident. After pumping for several days at the rate of 175 bbl. daily, production suddenly jumped to 500 bbl. per day of clean 25.3-gravity oil and the well has since remained on production at that rate. No. 9 Stern has been a no-dope well and therefore the exact depth, while unknown, has been placed at 6,580 ft. by a drill-pipe count. The 8⅝-in. water string was cemented at 4,100 ft. and the 6⅝-in. liner was landed on bottom and cemented through perforations at 5,600 ft. Previously this district has yielded production at depths ranging from 2,700 ft. to 4,155 ft. The East Coyote field consists of a normal anticline and production to date has come from rocks of Pliocene age. The upper zones in the west end of the East Coyote field are rather badly depleted but this new deep zone may result in a revival of drilling operations in other sections of the district. Since completion of No. 9 Stern there has been a concerted rush into the field to secure potentially productive acreage and three additional locations have already been staked. In addition to this new work, several old abandoned wells in the upper zones are being reentered and if found mechanically possible will be deepened to the new Stern zone.

Crude-Oil Production

State production of crude oil for the month of June was slightly higher than the total output for the month of May, although earlier in June production was running about 10,000 bbl. higher than during the preceding month. All indications point to the probability that production will be maintained at about the same level during the next 90 days and since this is the peak consumption period stocks should be reduced. What will happen later in the year and the probable effect of the cancellation of crude-oil purchase contracts by three large buyers remains to be seen. Current daily production of leading California oil fields follows:

	Barrels
Wilmington	85,900
Kettleman Hills	45,450
Long Beach	43,850
Midway-Sunset	40,500
Ventura Avenue	34,200

Wilmington

Union Pacific Railroad Co., largest holder of acreage in the Wilmington field of Los Angeles Basin, brought back memories of the early days of the Wilmington boom when No. 25-E on the Southern California Edison steam-generating plant property at the entrance of Long Beach Harbor was brought in flowing at the rate of 8,831 bbl. of clean 29.7-gravity oil per day after a 150-minute flow test. Production was still building up when the bean was closed and might have greatly exceeded this computed initial. It is the largest initial daily production recorded since more than a year ago. No. 25-E is located on the right of way of the Union Pacific Railroad Co. along the ocean front. Union Pacific made a deal with Southern California Edison Co. whereby the former developed the long, narrow strip of the latter extending through the field and in addition agreed to develop the property containing the company's steam-generating plant. Because the right of way through the field contained high-power transmission lines and the harbor property contained the steam-generating plant, Union Pacific Railroad Co. was obliged to drill a number of wells which had surface locations around the edge of the properties in question and then bottom them beneath the various properties by directional drilling. Executives of Union Pacific Railroad Co. and Southern California Edison Co. showed rare judgment and a recognition of the interests of both companies so that each might secure its fair share of production from the common pool.

In addition to No. 25-E of Union Pacific Railroad Co., which was finished at 4,037 ft. and produced from the Ranger, upper Terminal, and lower Terminal zones, two relatively small Ranger zone wells were also completed during the current week. These were No. 2 Wilmington Community of Barnhart & Morrow, which was brought in flowing 155 bbl. of clean 17.6-gravity oil daily from 3,720 ft., and No. 1 Harbor of Coast Line Oil Co., which was finished flowing 258 bbl. of clean 16.9-gravity oil per day from 3,708 ft. Both of these two new wells are located far out in the northwest end of the town-lot section of the Wilmington field, which covers the area north of Anaheim Boulevard and west of Ford Boulevard in the area south of Anaheim Boulevard. A total of 840 wells have been drilled in this field up to date and it will take at least 1,000 to fully develop present undrilled acreage as far as the Ranger and Terminal zones are concerned. It will take another 250 to take care of Ford zone development in the Long Beach Harbor section of the field when this horizon is thrown open to exploitation. This means that a minimum of 1,250 wells will be drilled in the Wilmington field, but it is believed that the total will be closer to 1,500 wells. Due to the great thickness of oil sand in the Terminal zone and the probability that two additional pays will be found in the underlying Ford zone, which is being held in reserve, the decline of this field will be slow.

Coalinga

The Northeast and Southeast Coalinga fields of Fresno County contributed two new wells each to the completion list this week and all four proved highly productive. Pure Oil Co. secured its first commercial oil well in the State of California this week when No. 1 Schwinn in Section 30-19-16, in the southern end of the Northeast Coalinga field was brought in flowing 1,500 bbl. of clean 26.7-gravity oil and 600,000 cu. ft. of gas per day from the Avenal zone, now generally recognized as the Gatchell zone, with bottom of the hole at 8,230 ft. This well was pinched back immediately subsequent to completion and its assigned initial is based on a computation from a short flow. North of this well in Section 19-19-16, Standard Oil Co. completed No. 82-19-B on fee-owned acreage flowing 1,125 bbl. of clean 26.6-gravity oil and 765,000 cu. ft. of gas per day from the Gatchell zone with bottom of the hole at 8,245 ft. Production of this well was flowed through a bean varying from 9/64-in. to 48/64-in. and consequently the initial recorded does not reflect the well's maximum capacity.

With the northern limits of production undetermined there is marked tendency on the part of operators to extend the scope of operations farther north and northwest. Last week Standard Oil Co. erected a derrick for No. 68-7-B and staked location for No. 88-7-B in the southern part of Section 7-19-16. This was considered far out at the time, but now comes Tide Water Associated Oil Co. with location for a test to be drilled on the Wood property as a joint undertaking with George F. Getty, Inc., and Pacific Western Oil Co. in Section 6-19-16, about 1 mile north of Standard's No. 68-7-B. Both wells are located north of current production and will therefore extend the productive limits of the field if completed as commercial wells. In the Southeast Coalinga field Standard Oil Co. completed an excellent well when No. 88-13-C in Section 13-20-15 was brought in flowing 4,001 bbl. of clean 30.3-gravity oil and 2,889,000 cu. ft. of gas per day through a 32/64-in. bean from the Gatchell sand with bottom of the hole at 7,820 ft. In the extreme southern end of the Southeast Coalinga field, Universial Consolidated Oil Co. has completed No. 72-24-C in Section 24-20-15 flowing 2,250 bbl. of very clean 29.8-gravity oil and 1,000,000 cu. ft. of gas per day from the Gatchell zone with bottom of the hole at 7,844 ft. This well logged top of the Kreyenhagen at 6,473 ft., top of the glauconitic at 7,704 ft., top of the Gatchell (EG) at 7,801 ft. and top of the Gatchell (EGa) at 7,815 ft. Bandini Petroleum Co. has completed No. 71-30-B in Section 30-19-16 at the southern end of the Northeast Coalinga field at 8,256 ft., but no gage of production has yet been taken. It looks like a normal completion for the district and should exceed 1,750 bbl. per day. Production as a result of corrective work undertaken on the well to eliminate water shows a cut of less than 1 per cent. The completion of this well by Bandini Petroleum Co. is of special interest because Wilshire Oil Co., the parent company, drilled a dry hole in this same section and Wilshire-Annex Oil Co. has recemented well No. 62-30-B in the same section for the fourth time at 8,205 ft.

Coastal District

Shell Oil Co., second largest holder of acreage in the Ventura Avenue field of Ventura County in the coastal district of California, completed two exceptionally large wells this week on the Taylor property in the Ventura Avenue field. The new wells were No. 117 Taylor, finished flowing 1,472 bbl. of very clean 30.9-gravity oil per day along with 953,000 cu. ft. of gas from 9,280 ft., and No. 119 Taylor, completed flowing 3,744 bbl. of clean 30.9-gravity oil and 3,452,000 cu. ft. of gas daily from 7,715 ft. Production of both wells shows a cut substantially below 1 per cent. No. 117 Taylor, which is located in the north side of the field near the east boundary of the Taylor lease, is producing from 1,132 ft. of formation and should therefore show a large ultimate recovery. No. 119 Taylor, which showed the largest initial and which is located along the south central part of the lease, is pulling from 1,551 ft. of oil sand and shale between the shoe of the 7⅝-in. water string at 6,164 ft. and 7,715 ft. Tide Water Associated Oil Co. is putting the finishing touches on two potential producers in this field and at least one of them should be tanking oil within the next few days.

In the Shiells Canyon field of Ventura County, Santa Clara Oil Co. has completed No. 1-C in Section 3-3-19 pumping 115 bbl. of 28.2-gravity oil cutting 2 per cent daily from 3,245 ft., but the company is seriously considering the advisability of deepening the hole to around 3,500 ft. as it is felt there is a possibility of finishing with a larger initial. In the Santa Maria field Union Oil Co. has completed No. 22 Squires in Section 26-9-34 pumping 25 bbl. of 21.3-gravity oil cutting 20 per cent from 3,785 ft. and some additional work may be undertaken in an effort to shut off the water which is responsible for the large cut. In the Elwood-Goleta district of Santa Barbara County Texas Co. has just completed derrick for No. 1 Bishop in Section 13-4-29 and the bit is scheduled to get under way before July 15. This is a seismograph shot and it is apparent that the results must have been conclusive because the company has blocked up about 1,000 acres adjacent to the location of No. 1 Bishop. Many operators have felt that there should be another accumulation in this area and a number of wells have been drilled without success. It will be recalled that E. J. Miley drilled several wells west of the location chosen by Texas Co. and did complete a few wells that produced a 50-gravity crude that was almost white. Miley immediately expanded the number of drilling wells and then the bottom fell out when the production dropped to almost nothing and the wells went to water.

(Continued on Page 72)

North Louisiana, Arkansas

By GEORGE WEBER

Wildcatting in Tex.-La.-Ark. District Is Increasing Rapidly

SHREVEPORT, La., July 1.—Completion of a gas well 4½ miles north of the Olla field, La Salle Parish, Louisiana, marked the week's most interesting development in the tri-state area, as numerous wildcats approached critical depths. A shallow Bossier Parish wildcat has an oil show in the Tokio. A further oil test in the Cotton Valley formation in a Union County, Arkansas, wildcat enhanced that wildcat's chances for finding production in the deeper Smackover lime. In all, including shallow and outpost tests, a total of 27 wildcats in North Louisiana, 23 in Arkansas and 11 in east border counties of Texas are spudded, drilling or shut down. This is the greatest number of wildcats in the district in many months. Of the active wildcats, several are important deep prospects.

Olla

Eleven of the wildcat tests in North Louisiana are drilling in the Olla section of La Salle Parish, where new field activity is currently the highest. Many of the tests are located in rank wildcat positions with relation to the field, and some are drilling between the two extensions to the main body of the field.

During the week the most important development at Olla was the completion of a gas well in a 4½-mile north outpost test. The wildcat, Placid Oil Co.'s No. 17 Louisiana Central, Section 19-11-3e, had drilled to a total depth of 5,095 ft., topping the chalk at 4,637 ft. and the Wilcox formation at 1,590 ft. The sands in the Wilcox section, producing to the south in Olla, were not all cored and were reported as carrying salt water last week. However, operators later took sidewall cores and decided to test two horizons. A string of 7-in. casing was set at 2,250 ft. and perforations were shot at 2,475-85 ft. The well came in making an estimated 15,000,000 to 20,000,000 cu. ft. of gas with no show of water nor any spray of oil. It was closed in and tubing and casing pressure built up to 1,060 lb. The test is now shut in pending the outlet for gas locally, probably for drilling purposes in the area. Location of the outpost is shown with relation to the field in the accompanying map.

This north discovery follows closely the opening of oil production 2½ miles south of the main Olla field. Last week Placid Oil Co. brought in No. 18 Louisiana Central for an initial gage of 142 bbl. through a 16/64-in. choke. The oiler is a south offset to the same operator's No. 16 Louisiana Central, which opened the south extension for gas production several days ago.

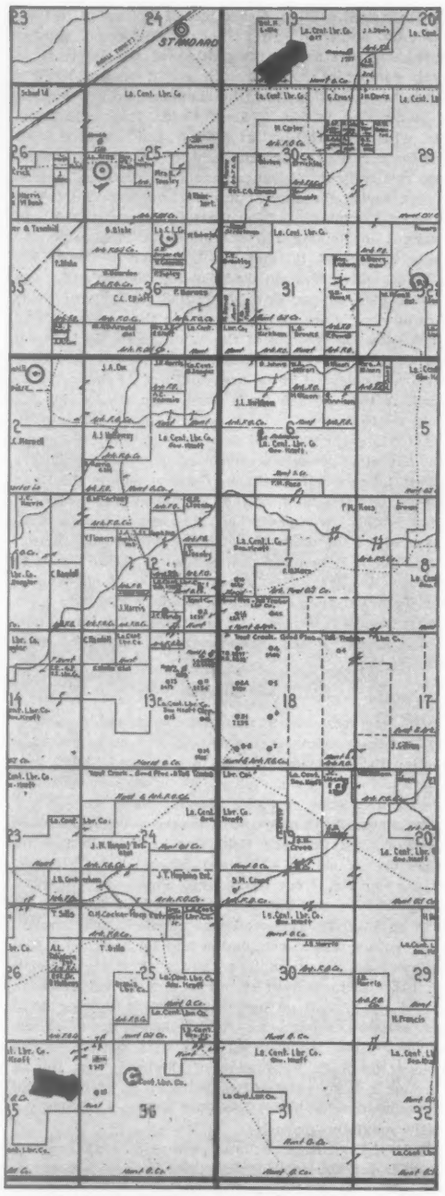
The two new areas, termed "extensions," may not prove to be actual extensions to the main oil-producing area between. It is believed that, particularly as pertains to the south area, the outpost production may be separated from the main field by saddles. This seems true of the Urania field to the west, which shows several outpost producing areas not connected with the main body of the field. Until intervening tests are drilled between the north and south areas and Olla proper, actual extensions of the field, or discovery of separate producing areas cannot be definitely interpreted.

Union Wildcat

Interest is gaining in the Standard Oil Co. of Louisiana's No. 1 Zimmerman, a Union County, Arkansas wildcat, located west of the El Dorado field in Section 29-18-16. Following shows of oil in thin streaks of sand in the Cotton Valley formation, operators tested one section which showed mud, oil and salt water. The section tested was topped at 6,783 ft., and a core from 6,789-99 ft. showed recovery of 8 ft. 7 in. of sand with a good ether cut in the upper 4½ ft., a straw colored ether cut in the next 3 ft. 3 in. and no coloring in the bottom. The drill-stem test was made at 6,764-88 ft., using ¼-in. chokes top and bottom, and with the testing tool open 15 minutes, 420 ft. of mud and oil and 1,260 ft. of salt water were recovered. The test is drilling ahead below 7,031 ft.

With few exceptions, wildcats which had shows of oil in the Cotton Valley formation have been successful in finding oil in the Smackover lime formation, and likewise wells with no shows in the Cotton Valley have been failures in the deeper Smackover lime. Considerable interest will surround the Standard wildcat during the next few days as it approaches the deep lime formation.

Other wildcats in Claiborne, Sabine, Caddo, Bossier and La Salle parishes, Louisiana; in Bowie County, Texas, and Columbia and Lafayette counties, Arkansas, will attract interest during the next several weeks. The new Fouke field, recently opened to production in the Paluxy by Standard Oil Co. of Louisiana, is to get an offset test shortly as the company's No. 2 Sturgis approaches the Paluxy formation. The shallow test, Reese & Whitson's No. 1 Bellevue Land Co. has an oil and gas show in the Tokio formation at 2,672-88 ft. and is coring ahead.



Globe Map Co., Shreveport, La., and Jackson, Miss.

The Olla field, North Louisiana's most active area may see added drilling as a result of extensions to the south and north. This past week, the Placid Oil Co.'s No. 17 Louisiana Central, a 4½-mile north outpost indicated by the arrow, came in making gas from the Wilcox. Recently, a 2½-mile extension to the field was brought in to the south by a gasser, and a south offset to the discovery last week was completed as an oil well, also in the Wilcox. Whether the two outpost areas prove continuous production from the main body of the field or represent separate pools cannot be judged at present. Outpost tests and semiwildcats now drilling around Olla are indicated by the circled wells

NORTH LOUISIANA COMPLETIONS

Caddo—Caddo Parish

W. F. Bridwell's No. 1 Stiles, Section 21-21-16, pumping 30 bbl., total depth 2,400 ft. L. O. Gandy's No. 2 Etchison, Section 11-20-26, pumping 35 bbl., total depth 1,525 ft. Magnolia Petroleum Co.'s No. 22 Doan-Thigpen, Section 6-20-15, 75 bbl., total depth 1,515 ft. McDonald & Campbell's No. 15 Youree, Section 13-20-15, pumping 25 bbl., total depth 2,270 ft. Skibro Co.'s No. 1 Shreveport Petroleum Co., Section 2-20-16, pumping 35 bbl., total depth 1,542 ft. Sklar Oil Corp.'s No. 2 Cheshire, Section 32-21-15, pumping 30 bbl., total depth 1,597 ft. Texas Co.'s No. 12-A Herndon, Section 14-21-15, pumping 200 bbl. fluid, 50 per cent salt water, total depth 1,669 ft. Texas Co.'s No. 7 Louisiana Co. fee, Section 1-20-16, pumping 10 bbl. oil, 50 bbl. salt water, total depth 1,672 ft., plugged back 1,650 ft. R. W. Williams' No. 5 Arkansas Fuel Oil, Section 25-21-16, salt water and abandoned.

Olla—La Salle Parish

Arkansas Fuel Oil Co.'s No. 2-A Goodpine, 608 ft. north, 667 ft. west, SE cor. SW Section 7-10-3e, 144 bbl., ¼-in. choke, tubing pressure 30 lb. casing pressure 500 lb., perforated 2,228-32 ft., total depth 2,238 ft. Placid Oil Co.'s No. 6 Goodpine, C NE SW Section 18-10-3e, 66 bbl., flow valves, perforated 2,230-45 ft., total depth 2,428 ft.

Monroe—Morehouse Parish

Southern Carbon Co.'s No. 31 Tensas, Section 2-21-4, 2,000,000 cu. ft. gas, rock pressure 845 lb., total depth 2,225 ft.

Zwolle—Sabine Parish

G. L. Pace's No. 5 Logan Oil Co., 330 ft. SW cor. SW NW Section 26-10-13, pumping 5 bbl. oil, 15 bbl. salt water, total depth 1,970 ft.

ARKANSAS COMPLETIONS

Urbana—Union County

Marine Oil Co.'s No. 5-B Thompson, 250 ft. south, 200 ft. west, NE cor. SE SW Section 3-18-13, pumping 150 bbl. fluid, 40 per cent salt water, total depth 3,573 ft.

Production in Larger Pools

Estimated daily gross production week ended June 29:

NORTH LOUISIANA

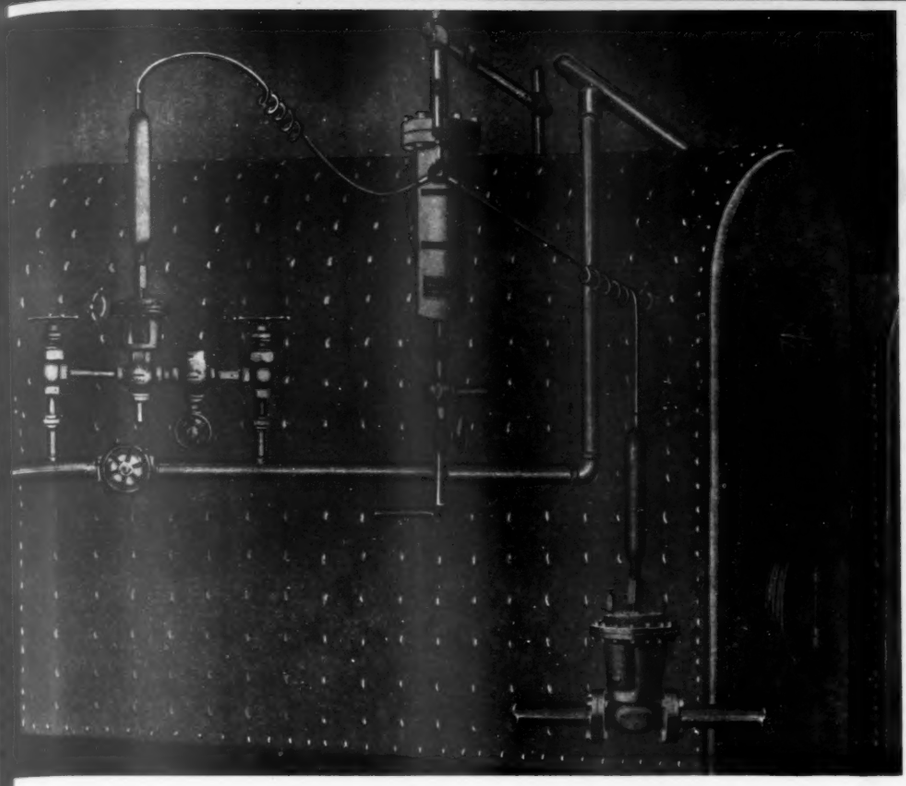
	Bbl.
Caddo light	5,400
Caddo heavy	2,130
Cotton Valley	14,475
Cross Lake	4,985
Homer	2,845
Lisbon	5,025
Rodessa	19,515
Miscellaneous	13,830
Total North Louisiana	68,205

SOUTH ARKANSAS

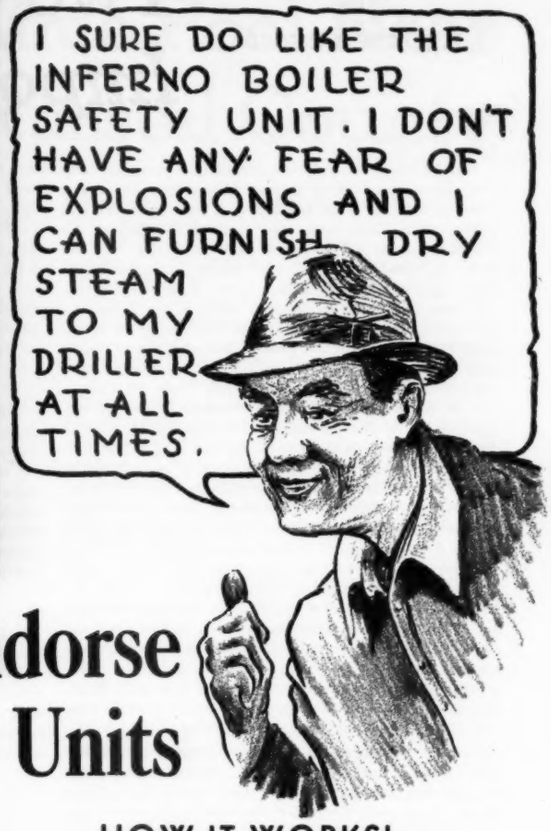
Atlanta	2,820
Buckner	2,220
Magnolia	20,420
Schuler	18,475
Smackover light	1,750
Smackover heavy	13,750
Miscellaneous	12,915
Total South Louisiana	72,350

Rodessa, Texas, 16,695 bbl. Arkansas, 2,050 bbl.

Accidents do not happen . . . . . They are Caused!



DRY STEAM with SAFETY


I SURE DO LIKE THE INFERNO BOILER SAFETY UNIT. I DON'T HAVE ANY FEAR OF EXPLOSIONS AND I CAN FURNISH DRY STEAM TO MY DRILLER AT ALL TIMES.

Firemen *Everywhere* Endorse INFERNO Boiler Safety Units

If you want to get a fireman enthusiastic, start talking about INFERNO Boiler Safety Units. Firemen everywhere endorse and recommend this unit as affording positive, automatic protection. They don't have to depend on soft plugs ("A.S.M.E. Code recommends that they not be used at pressures above 250 lbs.") to guard against boiler explosions. And they are enthusiastic because INFERNO Boiler Safety Units provide greatly increased efficiency . . . make possible DRY STEAM WITH SAFETY. We urge your investigation of the possibilities of installing INFERNO BOILER SAFETY UNITS on your boilers. If you already have a Lowater Alarm on your boilers it is as simple as A B C to add the additional equipment of the complete unit. And it doesn't cost much, either. Write for full information today! And, too, INFERNO Boiler Safety Units meet all safety regulations—government and A.S.M.E. Write for Bulletin No. 15-A.

HOW IT WORKS!

The complete INFERNO Boiler Safety Unit consists of the following equipment for each boiler (each boiler controlled individually):

The INFERNO Feed Water Level Control Valve automatically controls the water supply to each boiler and holds the water at any desired level making possible increased efficiency and DRY STEAM.

The INFERNO Lowater Alarm sounds a shrill whistle calling the fireman if the water supply fails and the water in boiler falls ½" below the set level.

The INFERNO Fuel Cut-Off Valve cuts off the fire in the boilers if the fireman has failed to heed previous warnings of the Lowater Alarm and the water drops 1" below the set level.

INFERNO Automatic Pump Governors and INFERNO Pump Control Valves are available for installation with the safety units, automatically starting and stopping the pumps as each boiler requires water. One pump with either a Pump Governor or Pump Control Valve will handle a battery of boilers.

THE INFERNO CO.

Makers of Better Steam Equipment

P. O. Box 1138
115 Ricou St.

SHREVEPORT
LA., U. S. A.

Insist on INFERNO BOILER EQUIPMENT at your Supply Store . . . Specify it on your NEW BOILERS

West, Central and Panhandle Texas

By R. MARNE SANFORD

Two Crane Wildcats Indicate Important Field Extensions

MIDLAND, Tex., July 1.—Strong prospects of commercial oil production at two wildcat tests in Crane County, together with indications of new discoveries in three other widely separated counties throughout the district, totaled a busy week in West Texas. Wildcat tests in Winkler, Mitchell and Concho counties all reported possible oil production at the close of the week.

Crane County's two wildcat tests, which drew the majority of the attention in the district during the week, were both in the central part of the county and northeast of the Tubb field. A mile east of a 2-mile north outpost producer to the Tubb field, Gulf Oil Corp.'s No. 12 Waddell was indicating commercial production. The wildcat is about 2 miles north and slightly east of the field proper. It had established itself as being high on structure several months ago when it showed for 80 bbl. daily from the Clear Fork series (Holt horizon found in northern Ector County). Unlike all other Crane County wildcats which had found water in the Holt level, Gulf's No. 12 Waddell drilled good shows of oil from 3,635-40 ft. At that time the 10-in. hole was reamed down to 3,480 ft. and drilling was resumed. Early the past week a zone reported to have shown 13,000,000 cu. ft. of gas was topped at 4,385 ft. Deeper drilling encountered a show of oil at 4,392 ft., however, tools were stuck in the hole at a total depth of 4,404 ft. The oil zone was reported to have been the top of the Tubb pay level. The Holt horizon occurs about 600 ft. above the Tubb pay in central Crane County.

Another wildcat in Crane County attracting considerable attention during the week was Gulf Oil Corp.'s No. 31 Waddell, located between the Waddell and Dune fields in the eastern part of the county. The well was reported to have swabbed 74½ bbl. of oil in 24 hours, plus 12 gal. of sulfur water per hour. Already plugged back to 3,427 ft. from 4,047 ft. to shut off sulfur water, the well will again be plugged back. It is located in Section 5, Block 4, P.S.L. Survey.

Winkler County

Attempting to establish a link between the O'Brien and the Halley fields in southern Winkler County, Gulf Oil Corp.'s No. 136 O'Brien, Section 11, Block F, G.&M. M.B.&A. Survey, was last reported drilling ahead below 3,046 ft. and making 1 bbl. of oil per hour. Last week the well had tested several gallons of oil hourly, bailing at two different levels. At a total depth of 2,770 ft. the well bailed 5 gal. of oil hourly. In drilling deeper to 2,787 ft. the well bailed at the rate of 30 gal. per hour. The company intends to drill the test about 200 ft. deeper before attempting commercial production.

Concho County

In the extreme eastern part of West Texas and near the southern part of the West Central Texas district, Floyd C. Dodson's No. 1 Wilson, in Concho County, attracted considerable attention during the week. A soft level in lime was drilled from 3,753-35 ft. and a bailing test recovered a barrel of oil hourly. The operator will cement 7-in. casing at 3,748 ft. for a thorough test of the section. Accurate geological section was not known, however, the penetration of a section of green shale from 3,737-47 ft. indicated to the operator that perhaps the hole was bottomed in the Simpson section of Upper Ordovician. The wildcat is located 425 ft. from the north and 1,250 ft. from the west lines of Thomas Green Survey, 10 miles southwest of Eden and only a half mile from the Concho-Menard county line.

Mitchell County

First indicating commercial production several weeks ago in northern Mitchell County, an area of approximately 6 square miles, had at the close of the week four wildcats in the final testing stages. B. S. R. Oil Co.'s No. 1 M. A. Berry, Section 83, Block 97, H.&T.C. Survey, was cleaning out at 1,775 ft. with 150 ft. of oil in the hole. Approximately 4 miles east of No. 1 Berry and in Section 195, Block 3, H.&G.N. Survey, Ewing & Haynes' No. 1 C. L. Grable was drilling below 1,700 ft. with 550 ft. of oil in the hole. Located between these two wildcat tests are four other wildcats, all either drilling toward the 1,700-ft. pay section or testing. All of the wildcats are seeking to extend the southern end of the Ira field in southern Scurry County.

New Wildcat Tests

Further development for the southeastern part of Ward County was seen during the week when Sinclair Prairie Oil Co. was reported to be preparing for a wildcat test in the area. While definite location has not yet been made, it is expected to be in the NE cor. NW Section 32, Block 4, H.&T.C. Survey. This location would place it about 3 miles south of the Shipley field. The company recently added to its holdings in the area, paying up to $10 per acre for some tracts.

Glasscock County was given a wildcat test early in the week when Moore Brothers Exploration Co. staked No. 1 Currie, 660 ft. from the south and 1,980 ft. from the west lines of Section 25, Block 34, Township 5s, T.&P. Survey. The location falls about 3 miles north of the south line of the county and about 11 miles southeast of Garden City. It is a mile northwest of the same operator's No. 1 Curry, in Section 25, which was dry and abandoned at 3,069 ft.

WEST CENTRAL TEXAS

FORT WORTH, Tex., July 1.—New wildcat locations featured the week's developments in West Central Texas, a total of seven being located in as many different counties. Also centering attention was the nearing gage of a discovery well in Callahan County.

The Callahan County discovery well which is shut in awaiting official gage is Huylar Lee's No. 1 Harris, Section 99, B.B.B.&C. Survey, 6 miles northwest of Baird. The well has been in the testing stages for several weeks and was last reported showing for an estimated 30 to 50 bbl. of oil daily. Production is from the Tannehill sand drilled with saturation from 1,219-29 ft., total depth. Several West Central Texas operators hold small tracts near the new well and immediate development is expected for the area.

Deep Tests

Two deep wildcat exploratory tests were located, one each in Jones and Stephens counties, during the week. Near the center of Jones County's Guitar field, Thomas D. Humphrey of Dallas is preparing to spud a 3,500-ft. Palo Pinto lime test. This is the first deep test for the field projected to this level. It is located in Section 45, Block 15, T.&P. Survey.

Stephens County's rapidly developing Stribling field is being given a deep Ellenburger lime exploratory test by Horwitz & Oldom's No. 4 Maury, Koehler Survey. Originally staked as a Marble Falls lime test, the regular producing horizon for the field, intentions were only recently announced of taking the test to the Ellenburger section. It was last reported drilling below 3,983 ft. after drilling through the Marble Falls section.

Other Wildcats

A new wildcat location for Coleman County was made by R. H. Murray of Abilene as his No. 1 J. A. Norris, located 467 ft. from the west and south lines of the northeast 160 acres of the James Greenwood Survey 304. The test is 7 miles south of the Novice field in the northwestern corner of the county. Contract has been let to 4,000 ft. which is expected to penetrate the Ellenburger lime of Ordovician age.

In Brown County Simon & Wynn, G. F. Morrissey and Hill Brothers have let contract for a 1,250-ft. Ordovician test 10 miles south of Brownwood. It will be No. 1 J. H. Fry, on a 2,000-acre block on Pecan Bayou. The location falls 1,150 ft. from the north and east lines of Block 33, John Williams Survey. Contractor is moving in materials for immediate spudding.

A 5,500-ft. wildcat test has been staked in Palo Pinto County and between the towns of Oran and Graford. It will be W. B. Davis and P. F. Cole's No. 1 Jess Rogers, located 467 ft. from the east and south lines of the T.E.&L. Survey 894, Abstract 470, 1½ miles west of Oran. It is between two tests drilled several years ago which both encountered shows of gas at several different levels.

A 1,950-ft. wildcat has been staked in Callahan County by J. F. West as his No. 1 C. A. Bowman. The location falls 2,490 ft. from the south and 450 ft. from the west lines of Section 70, B.B.B.&C. Survey.

In Shackelford County and contracted to 650 ft., R. F. Hart will drill his No. 1 J. L. Todd. The shallow test is 1,170 ft. from the north and 1,150 ft. from the west lines of Section 10, B.A.L. Survey.

WEST TEXAS COMPLETIONS

(24-hour gages)

Crane County

McElroy field: Gulf Oil Corp.'s No. 219 McElroy, 2,757-2,990 ft., 605 bbl.

Ector County

Foster field: Atlantic Refining Co.'s No. 12 Henderson, 4,000-4,250 ft., 623 bbl. York & Harper's No. 3-D Foster, location abandoned. York & Harper's No. 4-D Foster, location abandoned.

Johnson field: Atlantic Refining Co.'s No. 5-E Johnson, 4,160-4,250 ft., 718 bbl. Broderick & Calvert's No. 6-A Johnson, 4,158-4,295 ft., 304 bbl. Schermerhorn's No. 7-B Johnson, 4,030-4,156 ft., 719 bbl. Sinclair Prairie Oil Co.'s No. 1-64 Johnson, 4,167-4,247 ft., 97 bbl. Stanolind Oil & Gas Co.'s No. 1-C Johnson, location abandoned. Sunray Oil Co.'s No. 2-G Johnson, 4,056-4,163 ft., 675 bbl.

North Cowden field: Barnsdall Oil Co.'s No. 10 Smith, 4,075-4,215 ft., 1,252 bbl. Cities Service Oil Co.'s No. 4 Rhodes, 4,075-4,200 ft., 916 bbl. Rhodes & Tompkins' No. 1-C T.&P., dry and abandoned at total depth 4,336 ft. Texas Pacific Coal & Oil Co.'s No. 2 Smith, 4,130-4,220 ft., 116 bbl.

Goldsmith field: Gulf Oil Corp.'s No. 286 Goldsmith, 4,158-4,213 ft., 220 bbl. Gulf Oil Corp.'s No. 287 Goldsmith, 4,152-4,218 ft., 583 bbl. Gulf Oil Corp.'s No. 288 Goldsmith, 4,148-4,208 ft., 1,199 bbl. Gulf Oil Corp.'s No. 289 Goldsmith, 4,183-4,203 ft., 1,352 bbl. Gulf Oil Corp.'s No. 290 Goldsmith, 4,150-4,185 ft., 418 bbl. Phillips-Pure's No. 91 Cowden, 4,103-58 ft., 2,957 bbl. Phillips-Pure's No. 92 Cowden, 4,104-59 ft., 1,620 bbl.

Gaines County

Seminole field: Amerada Petroleum Corp.'s No. 1 Laura Blakemore, 5,232-5,355 ft., 634 bbl.

Wasson field: Amon G. Carter's No. 1 Moore, 4,895-5,050 ft., 1,148 bbl.

Hockley County

Slaughter field: S. W. Richardson's No. 1 R. L. Slaughter, 4,870-4,937 ft., 641 bbl. Stanolind Oil & Gas Co.'s No. 13-B Slaughter, 4,955-5,030 ft., 458 bbl.

Pecos County

Tobarg field: Cardinal Oil Co.'s No. 59-E Tippett, 436-509 ft., 11 bbl.

Lehn field: Louise Duncan's No. 1-B Sullivan-O'Brien, 1,659-97 ft., 69 bbl.

Scurry County

Sharon field: Helmerich & Payne, Inc.'s No. 7 Martin, 2,238-2,485 ft., 117 bbl.

Ward County

R. M. Barron's No. 2 A. Blair, dry and abandoned at total depth 2,370 ft.

Winkler County

Stanolind Oil & Gas Co.'s No. 2 McCutcheon, 3,120-85 ft., 80 bbl. C. V. Lyman's No. 3 E. W. Woods, abandoned location.

Yoakum County

Wasson field: Aloco Oil Co.'s No. 8 Smart, 4,820-5,162 ft., 557 bbl. Argo Oil Co.'s No. 6-C Comer, 4,890-5,155 ft., 1,526 bbl. Carter and Continental Oil Co.'s No. 7 Willard, 4,890-5,049 ft., 762 bbl. Don Danvers' No. 1 A. Anderson, 5,380-5,250 ft., 613 bbl. Honolulu Oil Corp.'s No. 7-890 Hovencamp, 4,922-5,100 ft., 1,236 bbl. Plymouth Oil Co.'s No. 1-D Ruth Bennett, 5,105-5,240 ft., 56 bbl. Shell Oil Co., Inc.'s No. 11-A Baumgart, 4,900-5,188 ft., 1,608 bbl.

(Continued on Page 56)

Kansas Developments

By
DAL DALRYMPLE

Open Lansing Lime Pool Near Bunker Hill in Russell County

The spread of exploration in the northeastern Kansas sector of the Forest City basin—where new wildcats in Nemaha and Jefferson counties were started—the apparent discovery of an oil pool in Russell County, and discoveries of a gas pool in Cowley County and a new pay zone in the Krier pool, Barton County, featured the past week in Kansas fields.

C. L. Carlock and Jones Brothers' No. 1 Mahoney, S½ SW SW Section 8-14-12w, wildcat about 2½ miles southeast of the Bunker Hill pool, apparently has opened a pool in Russell County. It found Lansing lime at 2,943 ft., pay at 2,977-80 ft., blew in with heavy gas pressure and flowed an estimated 5 bbl. of oil an hour by heads before it was brought under control. Operators set 7-in. pipe at 2,948 ft., preparatory to testing. Location is on a Skelly Oil Co. farmout.

Gas production was found in southern Cowley County at W. M. McKnab and others' No. 1 Lemert, W½ NW SE Section 11-34-4e, about 5 miles northeast of Arkansas City. Mississippi lime was topped at 3,078 ft. and at 3,089-92 ft. in chat, gaged 3,000,000 cu. ft. daily. Seven-inch casing was set at 3,087 ft. and the crew was drilling ahead toward Arbuckle lime. Nearest gas production is 4 miles to the west, but it is from shallow Pennsylvanian sand.

An extension of a new producing horizon for the Krier pool in Barton County was indicated at Johnson, Piggott and others' No. 1 Oeser, NE NE SW Section 30-16-11w, about ½ mile west of Lansing lime production. Oil was reported rising in the hole from basal sand, but depth was not announced.

Wildcat Operations

J. H. Wagoner and others' No. 1-A Ramsey, SW NW SE Section 8-24-5, wildcat about 1 mile east of the Hazlett pool, Butler County, topped Mississippi lime at 2,475 ft., had a slight showing of oil in sand at 2,471-75 ft., was bottomed at 2,501 ft., plugged back and ripped casing at 2,189-98 ft. and was acidized. It pumped 5 bbl. of oil and 100 bbl. of water daily and was abandoned. Kansas City lime was topped at 2,087 ft., with pay at 2,188-93 ft.

H. H. Royer's No. 1 Kroch, NE NE NW Section 28-18-4e, an old wildcat about 5 miles southwest of the Lost Springs pool, Marion County, was dry and abandoned after deepening to Mississippi lime at 2,431 ft., total depth 2,510 ft., and plugging back to 2,447 ft. It had a showing of free oil at 2,452 ft., but water intruded.

New wildcats included the following: Herndon Drilling Co. and others' No. 1 Hitchman, E½ NE NW Section 1-17-12w, between the Odin and Krier pools, Barton County, rigging up rotary; A. C. Bumpas and S. B. Hibbard's No. 1 Achten, S½ SE NW Section 12-4s-4e, about 18 miles southeast of Seneca, Nemaha County, on west side of Forest City basin, moving in machine; Gulf Oil Corp.'s No. 1 Arnhold, N½ NE SE Section 36-13-17w, some 2 miles east of the North Toulon pool, Ellis County, rotary rig; C. L. Carlock and others' No. 1 Hammer, N½ NE NW Section 35-19-12w, about 1 mile west of the Wolf sector of West Ellinwood pool, Barton County, rigging up rotary; Cities Service Oil Co.'s No. 1 Lehrling, NE SW SW Section 19-27-11w, 3 miles northwest of the Cunningham-Cairo field, Pratt County, building rotary rig.

Rice County

Westgate-Greenland Oil Co.'s No. 2 Hodges, C S½ NW NE Section 25-20-6w, Bornholdt pool, Rice County, had chat at 3,296-3,343 ft., total depth 3,346 ft., pumped 66 bbl. of oil in 8 hours and made potential of 200 bbl.

Continental Oil Co.'s No. 4 Michekis, SE NW SW Section 12-18-8w, Geneseo field, was acidized and made potential of 410 bbl. of oil from Arbuckle lime at 3,243-49 ft., total depth.

Cities Service Oil Co.'s No. 1 Siedd, C N½ NE SW Section 27-19-9w, Campbell field, was dry and abandoned at 3,234 ft.

Vickers Petroleum Co.'s No. 1 Bayer, CEL SE NW Section 20-20-10w, Raymond pool, pumped 1,685 bbl. of oil and 421 bbl. of water in 24 hours from Arbuckle lime at 3,292-99 ft., total depth.

Two gas wells were completed in the Lyons pool. Mitchell Drilling Co.'s No. 1 Sangster, C E½ SE SW Section 11-20-8w, gaged 3,641,000 cu. ft. daily from Arbuckle lime at 3,186-3,217 ft., total depth. Same company's No. 1 Wiggins, C SE NE Section 11-20-8w, found Arbuckle zone at 3,207-25 ft., total depth, and gaged 583,000 cu. ft. of gas. The No. 1 Sangster is the well that blew out of control early in April, causing considerable trouble.

Ellsworth County

Lauck & Moncrief's No. 1 Meyer, NW cor. Section 35-16-10w, Ehler pool, Ellsworth County, was completed in Arbuckle lime at 3,262-70 ft., total depth, for maximum allowable potential of 3,000 bbl. of oil. These operators opened the Ehler pool several weeks ago at their No. 1 Ehler, CWL SW NW Section 35-16-10w, about 1¾ miles southwest of the Stoltenberg field.

Indian Territory Illuminating Oil Co.'s No. 1 Boye, CEL NE NW Section 16-16-10w, Stoltenberg pool, topped Arbuckle lime at 3,337 ft., total depth 3,344 ft., and had initial yield of 57 bbl. of oil and 57 bbl. of water.

Cities Service Oil Co.'s No. 6-A Schroeder, SE SE NW Section 29-17-9w, Wilkens pool, had Arbuckle lime at 3,225-29 ft., total depth, was acidized and completed for maximum potential of 3,000 bbl. of oil.

Russell County

Completions of the week in Russell County were confined to the Hall-Gurney area, five producers being finaled. Texon Oil Co.'s No. 3 Bunker Hill, N½ NW NE Section 26-14-13w, had Arbuckle lime at 3,150-65 ft., total depth, pumped 84 bbl. of oil in 8 hours and made initial potential of 252 bbl., with no water. Same company's No. 4 Rogg, NE SW NW Section 35-14-13w, pumped 420 bbl. of oil in 8 hours and made daily potential of 1,260 bbl., from Lansing lime at 2,802-50 ft., total depth.

Coralena Oil Co.'s No. 2 Phinney, N½ NW NE Section 30-14-13w, penetrated Lansing lime at 2,900-38 ft., total depth, pumped 536 bbl. of oil in 8 hours and made 24-hour potential of 1,608 bbl.

Central Petroleum Co.'s No. 3 Boxberger, E½ SE SE Section 26-14-14w, flowed 299 bbl. of oil through 1-in. choke in 9 hours, making maximum potential of 3,000 bbl. It had Lansing lime at 2,914-97 ft., total depth.

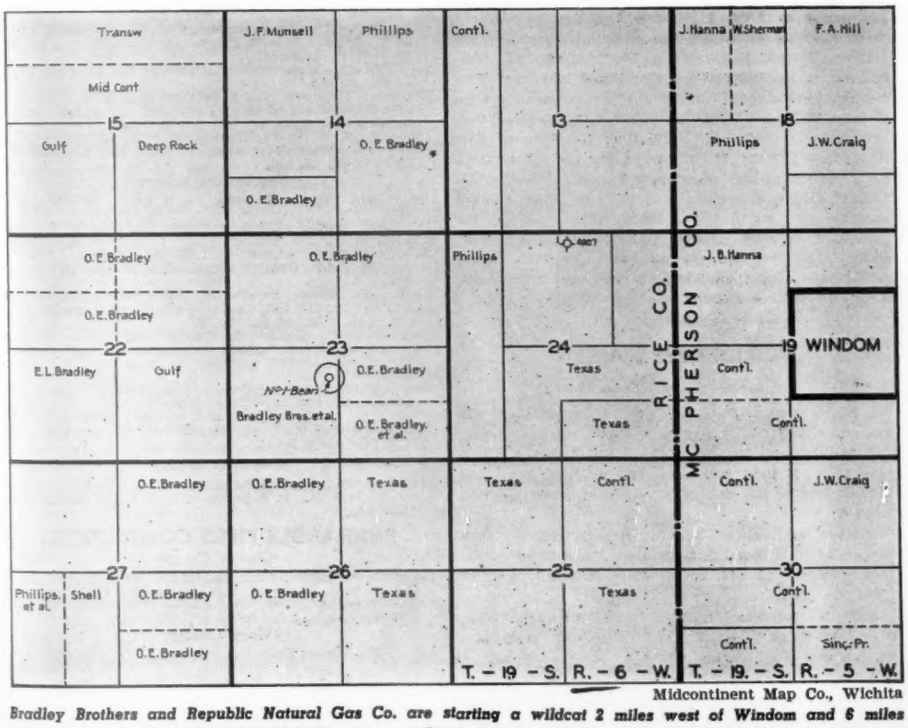
Stearns and Vernon Oil & Gas Co.'s No. 3-A Olson, E½ SW NW Section 27-14-14w, found Lansing lime at 2,972-75 ft., total depth 3,008 ft., and flowed 918 bbl. of oil in 8 hours, making potential of 2,754 bbl.

Ellis County

Dickey Oil Co.'s No. 2-B Carmichael, N½ NW NE Section 18-11-17w, Burnett pool, Ellis County, was completed for maximum daily potential of 3,000 bbl. of oil, producing from Arbuckle lime at 3,368-69 ft., total depth.

Tide Water Associated Oil Co.'s No. 2 Riddler, NE SE SW Section 1-11-18w, Burnett pool, found Arbuckle lime at 3,423-28 ft., total depth, and made maximum daily potential of 3,000 bbl. of oil.

Cities Service Oil Co.'s No. 4 McCord, SE NE NE Section 26-11-17w, Bemis field, pumped 23 bbl. of oil



Midcontinent Map Co., Wichita

Bradley Brothers and Republic Natural Gas Co. are starting a wildcat 2 miles west of Windom and 6 miles northwest of the Bornholdt pool of McPherson and Rice counties at No. 1 Bean, Section 23-19-6w, Rice County. Rotary tools are being used

an hour from Arbuckle lime at 3,597-3,635 ft., total depth, and made maximum daily potential of 3,000 bbl.

Barton County

Texas Co.'s No. 8 Hoffman, N½ SE NW Section 6-16-13w, Trapp field, Barton County, was completed in Arbuckle lime at 3,326-40 ft., total depth, for calculated daily potential of 3,935 bbl. of oil.

Shell Oil Co.'s No. 13-B Bitter, NE NE SE Section 6-16-13w, Trapp field, swabbed 292 bbl. of oil in 6 hours from Arbuckle lime at 3,336-46 ft., total depth, and potential was calculated at 2,725 bbl. daily.

B. B. & M. Oil Co. and others' No. 3 Esfeld, N½ NE SE Section 28-16-11w, Prusa pool, topped Arbuckle lime at 3,365 ft., total depth 3,379 ft. in lime, and made potential of 2,604 bbl. of oil daily, calculated.

McPherson County

Sunray Oil Co.'s No. 3 Lindquist, E½ NE NW Section 29-20-5w, one of the larger producers to be completed in the Bornholdt field, McPherson County, had Mississippi chat at 3,377-84 ft., total depth. It flowed 165 bbl. of oil in 1 hour and was completed for maximum allowable potential of 3,000 bbl.

Moulton and others' No. 2 Briggs, E½ SW SW Section 20-20-5w, found chat at 3,352-71 ft., total depth, flowed 60 bbl. of oil in 1 hour and made maximum daily potential of 3,000 bbl. of oil.

Hartman and others' No. 1 Swanson, S½ SW SW Section 18-20-5w, had chat at 3,309-41 ft., was bottomed at 3,346 ft., pumped 42 bbl. of oil in 4 hours and made daily potential of 126 bbl.

Continental Oil Co.'s No. 3 Bornholdt, N½ SE SE Section 30-20-5w, flowed 688 bbl. of oil in 4 hours and made maximum daily potential of 3,000 bbl. It found chat at 3,336-74 ft., total depth.

Stafford County

Transwestern Oil Co.'s No. 2 Banker, W½ SE SE Section 10-24-11w, Zenith field, Stafford County, drilled Viola lime at 3,771-3,821 ft., total depth, was acidized, flowed 196 bbl. of oil in 5 hours and made maximum allowable potential of 3,000 bbl. daily.

Stanolind Oil & Gas Co.'s No. 4 Heggy, W½ NW NE Section 10-24-11w, flowed 142 bbl. of oil in 4 hours from Viola lime at 3,739-94 ft., total depth, and made maximum daily allowable potential of 3,000 bbl.

Butler-Greenwood Counties

Rex & Morris' No. 5 Johnson, NE NE SE Section 20-26-7, Guenther area, Butler County, pumped 35 bbl. of oil daily from Mississippi lime at 2,740-68 ft., total depth. Adair & Morton's No. 2-A Thomas, SE SW SE Section 10-28-7, Brandt pool, had Mississippi lime at 2,747-67 ft., total depth, and pumped 35 bbl. of oil and 10 bbl. of water daily. National Refining Co.'s No. 15 Lathrop, W½ NE NW Section 17-23-4, Elbing pool, found Kansas City lime at 1,907-2,070 ft., total depth, was acidized and pumped 15 bbl. of oil daily.

In Greenwood County, Charles Barker's No. 1 Butcher, NE SW NE Section 17-28-11, Severy area, pumped 30 bbl. of oil daily from Lansing lime at 1,201-28 ft., total depth. Lemon & Shewmaker's well in SW NW NE Section 17-28-11, had Kansas City lime at 1,220-28 ft., total depth, was acidized and pumped 25 bbl. of oil daily.

In Marion County R. E. Youker's No. 3 Martin, SW NW SE Section 3-17-4, Lost Springs pool, topped Mississippi lime at 2,745 ft., total depth 2,405 ft., yielded a small amount of oil with water and was abandoned. Harwood Oil Co.'s No. 1-A McCoy, NW NW SE Section 14-17-4, had Mississippi lime at 2,320-88 ft., total depth, and pumped 25 bbl. of oil and 350 bbl. of water daily. Milburn & Loomis' No. 1 Higle, C SE SE Section 16-17-4, pumped 50 bbl. of oil and 30 bbl. of water after plugging back to 2,404 ft. Mississippi lime was topped at 2,354 ft.

In Cowley County Ryan Consolidated Oil Corp.'s No. 1 Couch, SW NE SE Section 13-30-5, an old well in the Couch pool, was deepened from 2,800 ft. to 2,815 ft. and initial potential was increased from 246 bbl. of oil to 559 bbl. daily. Bartlesville sand was topped at 2,776 ft.

In Barber County, James Davis' No. 2 Nuckolls, C SE NE Section 30-31-11w, Whelan pool, found Mississippi lime at 4,357-60 ft., total depth 4,377 ft., pumped 261 bbl. of oil in 8 hours and made daily potential of 785 bbl.

In Johnson County F. J. Kasper, trustee's No. 1 Hammer, SE NE SW Section 33-13-22, Kaths gas area, was abandoned on top of Raytown lime when formations were found to be running low. Same operator's No. 2 Hammer, NW cor. Section 33, about 900 ft. west of the discovery well, was started. Sagamore Oil & Gas Co. and F. J. Kasper, trustee, also started work at a test near C SW NW Section 3-14-22, about ¾ mile south and 1 mile east of the Hammer location, and offsetting a gas discovery well completed several months ago. These operators plan a considerable joint and individual drilling program in the area.

FOREST CITY BASIN

ST. JOSEPH, Mo., July 1.—The Falls City area in Richardson County, Nebraska, maintains its place as busiest sector of the Forest City basin, with several new tests due to be drilled within the next few weeks, but other parts of the four-state basin are not being neglected. This is especially true of northeastern Kansas, where new tests are being started in Jefferson, Johnson, and Nemaha counties. Reports on the Kansas tests are included in the Kansas field news.

Pawnee Royalty Co., discoverer of the Falls City pool, is preparing to drill about 1 mile northeast of the discovery, No. 1 Boice, in C NE NE Section 18-1n-16e. It also is due to start work on a west offset to its No. 1 Bucholz, C NW SW Section 17-1n-16e, second producer in the pool which has passed the halfway mark in the attempt to qualify for the Nebraska State bonus of $15,000 for the first well in the state to produce 50 bbl. of oil or more daily for 60 consecutive days.

Indian Territory Illuminating Oil Co. was preparing to spud its No. 1 Schaible-Kuttler, C NE SW Section 29-3n-16e, some 8 miles north of Falls City. Jackson & Carlock have contracted with E. J. Shaffer, Hutchinson, Kans., to drill No. 1 Holt, SW cor. Section 35-2n-16e, about 1 mile north of Falls City.

Interest was attracted to western Richardson County the past week when Uhri Oil Co.'s No. 1 Ogle, NE NW SE SE Section 9-1n-14e, 10 miles west of the Falls City pool, had oil showing with fluid in the hole at total depth of 2,259 ft. It had not been definitely determined if the oil was coming from Hunton lime or a sand. Operators cemented 5½-in. casing and were waiting. Definite information was withheld.

Sonken-Galamba Co.'s No. 1 Lehr, Section 25-5n-14e, southeast of Auburn, Nemaha County, Nebraska, and its No. 1 Ord, Section 8-5n-14e, was spudded with light rig, and Davis Brothers, contractors, were due to move in heavy rigs to continue work. Harry Blaser's No. 1 Wilson, Section 4-1n-10e, Pawnee County, Nebraska, was abandoned at 60 ft., presumably on top of granite.

In Missouri Vincent, Roach and others' No. 1 Dillingham, Section 16-53-34w, Platte County, was abandoned at 1,485 ft. G. W. Moore and others' No. 1 Moss, NW SW SE Section 30-65-24w, Mercer County, was abandoned at 2,330 ft. Dorris Drilling Co.'s No. 1 Jones, Section 16-58-17w, Macon County, and Tedlock and others' No. 1 Browning, Section 22-62-39w, Holt County, were reported as abandoned locations. Two failures were reported in the shallow gas area of Cass County. McKinney & Anderson's No. 4 Chandler, Section 4-45n-33w, at 426 ft., and their No. 2 Jones, Section 34-46n-33w, at 417 ft., were dry and abandoned. Same operators had spudded at a test in Section 11-45-33w. Other Missouri operations were at routine stages.

F. E. Hunt's No. 1 McConnell, Section 11-79n-30w, Guthrie County, Iowa, was underreaming 8-in. casing set at about 540 ft. Wildcats in Fremont and Taylor counties, Iowa, were shut down.

Oklahoma Fields

(Continued from Page 49)

S½ NE Section 26-26-4, Kaw pool, Osage County, was dry and abandoned in lime at 3,310-20 ft., total depth.

J. E. Wallace's No. 6-A Colbert, SW SE SE NE Section 14-14-14, Bald Hill area, Okmulgee County, had initial yield of 100 bbl. of oil daily at total depth of 1,050 ft.

Mitchell and others' No. 1-A Russell, SW SW SW Section 27-19-11, Sand Springs area, Tulsa County, was completed for 12 bbl. of oil daily at total depth of 1,823 ft.

A 20-bbl. well was completed in the Bilby area, Wagoner County, at Woodward and others' No. 2 Robson, SE NE SE NW Section 21-19-15, at total depth of 1,017 ft.

Muskogee County: W. B. Pine's No. 1-A Pierpont, SE NW SE NE Section 13-14-16, Boynton area, was dry and abandoned at 2,133 ft. Link Oil Co.'s No. 4 Mathews, C NW SE Section 19-15-15, Link pool, had initial production of 20 bbl. of oil daily at total depth of 1,562 ft.

New Field Work

Pottawatomie County: Moore's No. 1-A West, NW SE NW Section 26-6-4, rigging up rotary; Vise's No. 3 Richardson, SW NE SW Section 16-7-4, spudded; Atlantic Refining Co.'s No. 1 Washington, SE NE NE Section 24-11-4, rig; Ray Dunnett's No. 4 Rodgers, NW SE SW Section 31-11-4, building rig; G. & M. Co.'s No. 2 Rodgers, NE SW SW Section 31-11-4, drilling below 200 ft.

Amerada Petroleum Corp.'s No. 1 Stout, NE NE SW Section 3-10-5, old well in Seminole County, being deepened from 4,438 ft., drilling below 4,517 ft.

Creek County: Vierson's No. 1 Replogle, NW SW NE Section 24-14-10, rig on ground; Dunn's No. 1 Anthis, NW SE SE Section 34-14-10, old well, rigging up standard tools to deep from 3,196 ft.; Springer's No. 1 Fobes, SE NW SW Section 20-15-9, rigging up standard tools; Sinclair Prairie Oil Co.'s No. 3-B Wells, NW NW NW Section 5-16-8, old well plugging back from 3,496 ft.; Marrs' No. 2 Wilson, SE NE NE Section 34-18-8, old well deepening from 1,275 ft., drilling below 2,500 ft.; Adamson's No. 1 Cosar, SW SW SE Section 10-18-10, location.

Pawnee County: Reynold's No. 2 Ackley, SE NW NE Section 14-20-9, drilling below 707 ft.; Watchorn Oil & Gas Co.'s No. 18 Miller, SE NW SW Section 33-23-3e, drilling below 2,379 ft.

Ray Stephens, Inc.'s No. 1 Wilhite, SW NE SE Section 28-6-10w, Cement field, Caddo County, location.

Seran's No. 5 Seran, SW NW NW Section 2-11-8, Dill pool, Okfuskee County, building rig.

Progress Oil Co.'s No. 1 Martin, C SW SW Section 15-13-6, Lincoln County, rig.

West Texas Fields

(Continued from Page 54)

WEST CENTRAL TEXAS COMPLETIONS

(24-hour gages)

Brown County

Owens field: Callahan & Harris' No. 1 Cox-McGinnis, dry and abandoned at 720 ft.

Byrd Store field: Wilson Oil Co.'s No. 1-A Bowden, 2,437-55 ft., 5 bbl. Windham's No. 1 Cox, 2,340-70 ft., 20 bbl.

Wildcats: H. T. B. Production Co.'s No. 1 Smith, Subdivision 3, H. P. Brewster Survey 290, dry and abandoned at 405 ft. Stalcup's No. 1 Morris, W. B. Hester Survey, dry and abandoned at 972 ft.

Callahan County

Putnam field, Slaughter area: Valley Osage and H. T. B. Production Co.'s Nos. 3, 4 and 5 Slaughter, abandoned locations.

Coleman County

Novice field: McKissick's No. 1 Morris, 3,540-70 ft., 126 bbl. oil and 5,690,000 cu. ft. gas. McKissick's No. 2 Morris, 3,548-78 ft., 140 bbl. in 4 hours.

Jones County

Sayles field: Condor Petroleum Co.'s No. 28 Sayles, 1,910-30 ft., 281 bbl. Lewis Production Co.'s No. 3-D Sayles, 1,903-22 ft., 268 bbl.

Southwest Leuders field: G. Gaston's No. 1 Davis, 1,707-12 ft., 37 bbl.

Wildcat: Hunter's No. 1 Betties, Section 1, T.C. Survey, 3,458-63 ft., 25 bbl. oil and 300 bbl. water per day to open new field.

Lewis field: W. H. Peckham's No. 12 Brock, 1,863-94 ft., 240 bbl. Wichita Production Co.'s No. 6 Daughtry, 1,856-85 ft., 55 bbl.

Shackelford County

Ghio field: W. L. Baker's No. 4 Ghio, 587-601 ft., 6 bbl.

Ivy field: Humble Oil & Refining Co.'s No. 2 McCown, 3,155-79 ft., 218 bbl.

Albany field: B. Kidd's No. 1 Clark, 655,62 ft., 7 bbl.

Sedgwick field: Roark's No. 7 Hickman, 665-69 ft., 40 bbl.

Cook field: Roeser-Pendleton, Inc.'s No. 11-B-113 Cook, 1,577-91 ft., 355 bbl. Roeser-Pendleton, Inc.'s No. 9-A-113 Cook, 1,573-85 ft., 106 bbl.

Jackson field: Ungren & Frazier and Beams Drilling Co.'s No. 1 Dyer, Section 85, Block 12, T.&P. Survey, 921-29 ft., 110 bbl. per day to open new producing level.

Wildcat: Georgian Oil Corp.'s No. 1 Blach, Section 390, T.E.&L. Survey, top Ellenburger 4,730 ft., total depth 4,825 ft., plugged back and acidized with 6,000 gal. from 3,900-15 ft., 8 bbl. oil and 200 bbl. water to open new producing level.

Stephens County

Stribling field: W. B. Omohundro's No. 1-B Dance, 3,570-89 ft., 165 bbl. in 3 hours to rate daily potential of 1,320 bbl.

PANHANDLE FIELD COMPLETIONS

Carson County

Magnolia Petroleum Co.'s No. 82 fee No. 244, 2,976-3,000 ft., 11 bbl. Shell Oil Co., Inc.'s No. 12 E. Cooper, 3,047-3,142 ft., 344 bbl. Skelly Oil Co.'s No. 110 Schafer ranch, 3,087-3,102 ft., 492 bbl.

Gray County

Lefors Petroleum Co.'s No. 5 Bruce Bull, 2,895-2,900 ft., 19 bbl. Magnolia Petroleum Co.'s No. 32 fee No. 227, 3,042-57 ft., 46 bbl. Harry Steckoll's No. 5-A Coombs-Worley, 2,972-3,032 ft., 20 bbl. Harry Steckoll's No. 6-A Coombs-Worley, abandoned location.

Hutchinson County

Skelly Oil Co.'s No. 3 E. E. Watkins, 2,690-2,760 ft., 247 bbl. Stanolind Oil & Gas Co.'s No. 16 C. C. Pitcher, 3,070-3,175 ft., 436 bbl.

Indiana Field

(Continued from Page 48)

plugged back to 1,825 ft., 250 ft. of oil in the hole at new total depth of 1,837 ft.; cleaning out.

A. L. Braden and others' No. 1 Simpson, NW SE NE Section 19-3s-11w, an old well deepened from 2,703 ft., was drilling at 2,736 ft. with 450 ft. of oil in the hole. L. B. Jackson and others were rigging up machine for No. 1 Wallace, NE SW SE Section 15-2s-9w. Newton Pipe Line Co.'s No. 1 Carruthers, NW NW SW Section 25-1s-10w, rigging up standard tools.

Spencer County

In Spencer County C. J. Williams and others' No. 1 Walker, NE NE NW Section 6-8s-6w, hole full of water at 940 ft.; shut down for orders. Snell and others' No. 1 Bretz, SE cor. NW SW Section 3-7s-6w, drilling below 625 ft. L. M. Steele's No. 1 Eigleman, NW NE NE Section 22-7s-6w, drilling below 450 ft. O. F. Kelly's No. 1 Kincaid, C NW SE Section 28-7s-6w, shut down at 1,010 ft. with no showings. Damron Brothers' No. 1 Boyd, NE cor. SW SE SE Section 39-7s-6w, pay at 948½-55 ft., flowed 20 bbl. in 14 hours by heads; installing pump. Ben Davis and others' No. 1 Simms, SW SW SE Section 22-6s-7w, drilling at 868 ft. in a hole full of water. Damron Brothers' No. 1 Carder, NE NE NW Section 31-5s-5w, Ste. Genevieve lime top at 1,073 ft., shut down at 1,125 ft., with no showing. E. J. Lambert and others' No. 1 Hedges, NW NW NE Section 5-7s-7w, showing of oil at 994-95 ft., total depth 1,002 ft., may drill deeper.

Posey County

In Posey County Superior Oil Co.'s No. 3 Mumford SE NE NE Section 32-3s-13w, was completed. It pumped 78 bbl. in 12 hours from sand at 2,442-52 ft. It pumped 53 bbl. the second day, with the oil cutting 15 per cent. Ray Ryan and others' No. 1 Keck, NW SE NW Section 34-3s-14w, pumped 212 bbl. the first 24 hours from sand at 2,786-2,813 ft., which had been shot with 20 qt. Somers & Egan's No. 4 Keck, SW cor. NW NW NE Section 34-3s-14w, pumped 30 bbl. per day at a total depth of 2,808 ft.; completed.

La Salle Drilling Co.'s No. 1 Peoples Bank, SE NW SE Section 26-7s-15w, had lower Kincaid top at 1,790 ft.; shut down at 1,915 ft. Ray Ryan and others' No. 2 Keck, NW NW NW Section 34-3s-14w, shot with 20 qt. at 2,780-2,801 ft., flowing by heads; not yet completed. Continental Oil Co.'s No. 1 Ford, NE NE NW Section 35-3s-14w, perforated pipe at 2,523-37 ft., 2,540-52 ft., and 2,170-83 ft.; well produced 15 bbl. a day; will try to produce all pays. Somers & Egan's No. 6 Keck, NE NE Section 34-3s-14w, shut down at 350 ft.

In Other Counties

In Daviess County Newton Pipe Line Co.'s No. 1 Brittain, NE NE SW Section 15-1n-5w, was fishing at 450 ft. Ben Ruble's No. 2 Walker, NW cor. NE SE SW Section 4-2n-5w, drilling at 365 ft. Newton Pipe Line Co.'s No. 1 Connelly, SE SE NE Section 33-2n-6w, drilling at 1,755 ft.

In Greene County Commonwealth's No. 1 Tucker NW cor. NE SE NE Section 16-6n-6w, fishing at 1,297 ft. Shicker & Lyon's No. 1 Kiser, NW NW NW Section 4-7n-5w, topped what may be St. Peter sand at 3,187 ft., and was shut down at 3,205 ft.

In Sullivan County T. B. Scott and others' No. 1 Mattox, SW NE NE Section 29-8n-9w, was drilling at 180 ft. Clarence Hardin's No. 1 Evans, NE SE SW Section 28-8n-10w, was drilling at 460 ft.

In Putnam County C. L. Williams' No. 1 Cooper, SW SW NE Section 10-13n-4w, was drilling at 2,430 ft.

In Newton County Vaughn & Smith's No. 1 Gacup SW SE SE Section 33-32n-8w, was shot with 20 qt. at 866-80 ft. Oil rose in the hole 250 ft. Will pump.

In Porter County Norris & Brown and others' No. 1 Cole, NW cor. SW NW SE Section 19-36n-5w, was drilling at 240 ft.

In Knox County Richter & Cain's No. 1 Montgomery SE cor. NW NE SW Section 28-5n-7w, old well deepened from 2,261 ft., was drilling at 2,308 ft.

WESTERN KENTUCKY

OWENSBORO, Ky., July 1.—Four oil wells and nine dry holes formed the record of completed work in the western Kentucky fields in the past week in review. The best well of the week produced 70 bbl. of oil in 10 hours. Following were the completions and new operations:

Christian County, Apex district: Shadoan & Wilson's No. 1 Marques (McDonald Min.), abandoned at 385 ft.

Daviess County, Cane Run School district: Ira Huff's No. 3 Rollie Ambrose, dry hole through McClosky lime, total depth 1,262 ft. F. F. Gibson and others' No. 3 Mrs. Laura V. Howard, did not respond to acid; dry hole through McClosky lime, total depth 1,496 ft. Gatewood district: Sohio Producing Corp.'s No. 1 R. D. Bickett, dry hole, total depth 1,140 ft. Utica district: H. C. Farmer and others' No. 3 J. E. Brown, south 50 acres, dry hole through Cunningham sand, total depth 1,578 ft. Handyville district: Stewart & Snyder's No. 4 Anna Ezell, location. Staves Drilling Co.'s No. 5 L. I. Iglehart, pumped 70 bbl. in 10 hours from Jett sand, total depth 1,283½ ft.; No. 6 is moving in. Pleasant Ridge district: F. F. Gibson and others' No. 4 Kate Shively, drilling at 475 ft.

McLean County, Island district: South Penn Oil Co.'s No. 10 Kirtley, 20 bbl. of oil and 50 bbl. of water from McClosky lime at 2,032-41 ft.; No. 11 is rigging up.

Breckinridge County, Cabot district: McDonough & Co.'s No. 2 Noel Mason, location. Pleasant Grove Church district: E. E. Borders' No. 1 U. S. Moxley, dry hole, total depth 185 ft.

Hancock County, Cloverport district: F. A. Turner and others' No. 6 R. Duke, 8-bbl. well in Bethel sand, total depth 532 ft. Maceo district: Fitzpatrick & Hayes' No. 1 Mrs. R. P. Ellis, moving in.

Ohio County, Buford district: Rex Pyramid Oil Co.'s No. 3 Walter Blare, Barlow sand shot with 40 qt. at 1,033-41 ft., dry and abandoned; No. 4 is spudding in. Pleasant Grove Church district: W. A. Way and others' No. 1 Charles Davidson, dry hole through Jett sand, total depth 281 ft. Oklahoma district: A. Teller, trustee's No. 9 Archie Dickens, dry hole through Jett sand, total depth 640 ft. Deanfield district: Stevenson's No. 1 O. and G. Hertzing, 150,000 cu. ft. of gas from Jett sand at 510-20 ft., total depth 831 ft., abandoned. Sunnydale district: J. W. Tuttle and others' No. 5 C. E. Wimsatt, 10-bbl. well in Pennsylvanian sand, total depth 215 ft.

Todd County, 3 miles south of Clifty: E. D. Noe and Henry Myers' No. 1 Harris, had two slight oil shows in Devonian; sulphur water at 1,947 ft.; total depth 1,950 ft.; dry hole.

Since 1912, this familiar Trade Mark has assured pumpers of greater cup performance on the job, because of more stamina in the cup.

For Deep Wells

There's No "Drag-On" Production When You Use Dragon Composition Cups

Per day of service and dime of cost—Dragon Composition Cups are your most economical buy. They have the *stuff* to withstand the gaff—LONGER.

Dragon Composition (Deep Well) Cups are as fearless of long, hard service as their name denotes—because they are "tailored" of toughest materials, to our own secret formula, by cup specialists.

Nobs Composition (for shallow wells) and Dragon Leather are our other two "Cup Companion Champions"—for *higher production* records, through *longer* endurance runs.

Call for them *by name*—DRAGON—at your supply store.

The Dragon Mfg. Co.
Marietta - - - - Ohio

Make Your Own Electricity for LESS THAN 1¢ a K.W.H.

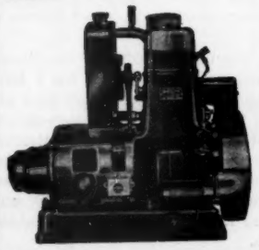
WITTE DIESELECTRIC PLANTS

These sturdy, compact, quality built plants give you more for your money from every standpoint. Dependable as day and night. Can be operated by practically any employee without constant supervision. Operate on cheap, non-explosive fuel producing electricity for the amazingly low cost of only 1¢ a K.W.H.—and you pay for only the current you produce and use.

1500 to 8000 watts — Vertical — Horizontal — Manual, electric starting or completely automatic.

Wherever You Set Your Rig...

No worry about high lines being near or far from your job. The WITTE is easily transported anywhere — and always ready for immediate service. Finger-tip control — remote or at engine — you just push a button and the WITTE does the rest. Soon pays for itself out of savings. *SEE YOUR SUPPLY DEALER* — or write now for complete information.



WITTE ENGINE WORKS
1903 OAKLAND AVE. KANSAS CITY, MISSOURI

North and East Texas

By
R. MARNE SANFORD

New Deep Pay Near Nocona Interesting N. Texas Prospect

WICHITA FALLS, Tex., July 1.—A new deep producing area for the northern part of the Fort Worth basin appeared in prospect as the week closed. The new area is a mile east of the town of Nocona in the northwest part of Montague County.

Being only about 1½ miles east of Bend lime production in the Rogers & Rogers field, the new prospect is Sinclair Prairie Oil Co.'s No. 1 Benton, Thomas R. Jackson Survey. The wildcat appeared a failure early in the week when it was bottomed at a total depth of 5,416 ft. with only slight shows reported between 5,217-37 ft. The hole was plugged back to 5,135 ft. and 7-in. casing cemented at 5,120 ft. When the plug was drilled slight shows of oil were reported from the conglomerate pay. After being shut in for several days the well was open to flow at the rate of a barrel of oil per minute for 20 minutes. It was again shut in and storage erected. The second flow netted 10 bbl. of oil in 18 minutes. Both flows were through open 7-in. casing. At last reports the well was being connected to tanks and separator for official gage.

The well is believed to have opened a new field even though only a mile from the eastern edge of the Rogers & Rogers field. The Rogers & Rogers field has three pay levels; however, all are at different depths than the new discovery. Two of the field's pay levels are in the lower Strawn and are the 4,300-ft. and 4,600-ft. pays. The deepest producing level in the field is the 5,200-ft. Bend lime. Being definitely a lime pay, this level differs from the new discovery in that the discovery is producing from the characteristic Bend conglomerates found at several other points throughout the county.

The new discovery is believed definitely associated with the south-plunging anticlinal condition of the Rogers & Rogers field proper.

Seay Area

Considerable interest was still being shown the Seay area in the extreme western part of Montague County as failure appeared in prospect for the previously indicated 4-mile-northeast extension to the field. The well is Sinclair Prairie Oil Co.'s No. 1 Milam, Block 54, Abel Beason Survey. The test was drilled to a total depth of 6,000 ft. in the Ellenburger lime and plugged back to 5,710 ft. to test shows of oil in the conglomerate section. Insufficient tests were made at the time of penetrating the conglomerate section to definitely indicate whether commercial production was possible. Reports of the testing progress are expected to be known early this week.

Still displaying the hazardous conditions of the conglomerate pay section throughout Montague County, Fain-McGaha Oil Corp.'s No. 1 Spring, east offset to the discovery well in the Seay field, was pulling tubing for further cleaning out after the well died on its first production gage. The conglomerate pay section was drilled at about the same depth as found in the discovery and its prospects were as favorable as the discovery well. However, when opened for gage early in the week, the well made 50 bbl. of oil the first hour, 10 bbl. the second, 5 the third, and died. It was not known whether mechanical defects caused the drop-off in flow or whether the pay section is too tight for commercial production. Tubing is being pulled and the well will be swabbed for several days through casing in an attempt to make it kick off and flow natural.

Clay County

North central Clay County drew attention during the week as shows of oil were reported for a wildcat test about 6 miles north of Henrietta. It is W. M. Omohundro and Wirt Franklin's No. 1 Staggs, Block 34, Angelina County School Lands Survey, an old test being deepened below its originally abandoned depth of 4,850 ft. With total depth being 6,269 ft. early in the week, the well showed a recovery of 15 ft. of oil-cut mud on drill-stem test. Another test at a total depth of 6,365 ft. showed 25 ft. of oil-cut drilling mud. It was last reported drilling below 6,369 ft.

The southwestern part of Clay County was given a new 3,750-ft. wildcat test during the week when L. O. McMillan, of Tyler, made location for his No. 1 T. Watson, 1,400 ft. from the north and east lines of Section 2630, T.E.&L. Survey. The location falls 4 miles northwest of Shannon and about 2 miles northeast of L. T. Burns' No. 1 Watson, Block 2639, which was plugged and abandoned at a total depth of 5,150 ft., with no shows reported.

Cooke County

A wildcat test projected to the Ordovician level in Cooke County was staked by James D. Hancock, of Dallas, the past week. Contract was let to Richards & Holloway, Inc., and materials are being moved in for immediate drilling. It is No. 1 F. P. Alexander, 660 ft. from the north and west lines of an 80-acre lease in the John Woods Survey, Abstract 1140. It will seek production from the Ellenburger lime of Ordovician age. Contracted to 3,100 ft., it is about 1½ miles south of Mountain Springs.

EASTERN TEXAS

DALLAS, Tex., July 1.—Renewed activity at the deep Pettit lime Chapel Hill field in Smith County held the attention in eastern Texas during the past week. With development progressing very slowly since the discovery of oil early this past year, two companies took the lead during the past week in staking a total of four new tests. The field's second oil producer was completed for a potential of 123 bbl. of oil in 9 hours, natural.

The newest completion in the field is Sun Oil Co.'s No. 1 Everhart, Lively Survey, ¾ mile southwest of the discovery oil well for the field. Although scheduled to be acidized with either two or three treatments as was the discovery well, the new producer made a flow of 123 bbl. of oil, natural, on a 9-hour gage through tubing. Production is coming from 71 perforations in the casing from 8,252 to 8,270 ft. The well indicates as high a potential as the discovery well.

Adding to the active operations in the area, Pure Oil Co. staked two locations during the week and Sun Oil Co. and Shell Oil Co., Inc., staked two locations jointly. Pure Oil Co. staked No. 1 W. T. Emmons on a 30.44-acre tract, 366 ft. from the south line and 660 ft. from the east line of the William Dickenson Survey, approximately ½ mile west of the Sun Oil Co.'s No. 1 Huddle, which was completed for a distillate producer from the Rodessa section of the Glen Rose lime.

Pure Oil Co.'s second location was No. 1 O. B. Johnson, 516 ft. from the south line and 660 ft. from the east line of the Thomas Payne Survey, on the east side of the survey, and approximately a mile west of Hunt Oil Co.'s discovery distillate producer for the entire structure.

Jointly, Sun Oil Co. and Shell Oil Co., Inc., located their No. 1 Bacon and No. 1 Mosely. The No. 1 Bacon is spotted 660 ft. from the north and east lines of a 100-acre tract in the E. Tunnell Survey, approximately 1¼ miles southwest of the Hunt Oil Co.'s discovery distillate well. The companies' No. 1 Mosely is located 660 ft. from the north and east lines of a 76-acre tract in the Levi Hands Survey, about ¾ mile southwest of Shell Oil Co., Inc.'s No. 1 Campbell, discovery oil well for the area.

Rowe & Baker Field

The little-developed two-well Rowe & Baker field of northwestern Henderson County and just northeast of the Flag Lake field, received its third oil well and a new location during the week in what is the start of a drilling program for the field. The new well was W. R. Manning's No. 1 T. H. Bell, D. Muckelroy Survey, about 6 miles southwest of the town of Mabank and slightly southwest of the two wells in the field. With the 10-in. casing cemented at 3,195 ft., the casing was perforated from 3,184-87 ft. and considerable oil was swabbed on initial tests. Tankage and separator were being erected and the well was believed to make about a 60-bbl. pumper. Production is from the Woodbine sand.

General Activity

Field activity throughout the eastern Texas district showed a decided decline during the week with only two wells being completed in the East Texas field and only three in the East Central Texas area. All three of the central area's completions were in the Talco field of Franklin and Titus counties and one of these three was a dry hole at 4,308 ft. Only five new locations were listed for the East Texas field.

EAST TEXAS FIELD COMPLETIONS

(One-hour gages)

Gregg County—Longview Area

Stanolind Oil & Gas Co.'s No. 49-B J. C. and R. S. McKinley, 3,566-3,602 ft., 43 bbl.

Upshur County—Longview Area

B. F. Phillips' No. 2 C. B. Everett, 3,599-3,604 ft., 90 bbl.

EAST CENTRAL TEXAS COMPLETIONS

(24-hour gages)

Franklin County

Talco field: Humble Oil & Refining Co.'s No. 19 Pennfee, 4,215-88 ft., 758 bbl. daily, pumping. Stroube & Stroube's No. 7 Norman-Prince, temporarily abandoned at total depth 4,308 ft., sand tight.

Titus County

Talco field: Iowa-Payne Oil Co.'s No. 2 H. B. Wilson, 4,278-4,310 ft., 467 bbl., pumping.

NORTH TEXAS COMPLETIONS

Archer County

Chapman & McFarlin's No. 6 L. F. Wilson D, 4,361-81 ft., 232 bbl.; No. 8 L. F. Wilson E, 3,748-69 ft., 720 bbl. Continental Oil Co.'s No. 17 L. F. Wilson McCrory, 4,290-4,383 ft., 1,165 bbl.; Cox & Hamon's No. 5 J. A. Little Big, 4,355-4,420 ft., 1,055 ft. N. H. Martin's No. 6 T. B. Wilson, 1,588-92 ft., 8 bbl. L. Sikes' No. 4 W. Ford, 4,325-4,415 ft., 48 bbl. H. Craig's No. 2 W. R. McLeland, 1,230 ft., dry. R. Horany's No. 4 J. A. Kunkel, 1,151-55 ft., 10 bbl. Panhandle Refining Co.'s No. 45 F. C. Green B, 1,095-1,106 ft., 28 bbl.

Clay County

Continental Oil Co.'s No. 1 O. O. Ross and others, 5,384-5,440 ft., 2,296 bbl. Rogers and others' No. 1 T. D. Groves, 1,414 ft., dry.

Cooke County

Boedecker and others' No. 1 F. Herr, 1,317 ft., dry. Sinclair Prairie Oil Co.'s No. 13 P. McGeorge, 4,936-65 ft., 713 bbl. The Texas Co.'s No. 7 M. Kessler, 1,314-76 ft., 14 bbl. Sam Vogel's No. 6 G. T. Andress, 980 ft., shale.

Jack County

Rowan & Nichols and others' No. 5 John Matlock, 3,070-3,312 ft., 250 bbl.

Wichita County

Dwyer and others' No. 1 Huffine, 1,676 ft., dry. Blanco Oil Co. and others' No. 4 Fred Thom, 3,784-3,810 ft., 1,644 bbl. Burk Roy Co.'s No. 2 C. Burk, 4,023-4,123 ft., 108 bbl.; No. 5 C. Birk, 827 ft., dry. Cochran & Cain's No. 2 D. R. Preston B, abandoned location; No. 3 D. R. Preston B, 4,500 ft., dry. W. B. Hamilton's No. 5 N. H. Martin E, 3,685-3,741 ft., 2,160 bbl. W. H. Hammon's No. 20 S. H. McCarty A, 3,588-3,805 ft., 595 bbl. Milliken and others' No. 2 H. Willis, 614 ft., dry. Venmex Oil Co.'s No. 12 State of Texas, 3,698-3,757 ft., 425 bbl.

Wilbarger County

Daniel Production Co.'s No. 1 W. T. Waggoner estate AA, 1,851-71 ft., 15 bbl. Pois and others' No. 4 D. B. Flaniken, 2,123 ft., dry.

Rocky Mountain Area

By T. R. INGRAM

Southeastern New Mexico Has More Completions Than Usual

DENVER, Colo., July 1.—Mountain Fuel Supply Co.'s No. 5-A Wilson, in the Hiawatha field in Colorado, averaged 281 bbl. daily on a 7-day pumping test from three sands in the Wasatch formation. Continental Oil Co.'s No. 1 Whitaker, second well on the Fort Collins dome deepened from the Muddy to the Dakota, pumped only 22 bbl. in 24 hours and may drill deeper before completing. Texas Co.-California Co.'s No. 3 Unit on Wilson Creek structure, found water in the Morrison and is shut down for orders. A fourth well will be drilled a mile south of the discovery.

In Wyoming Minnelusa Oil Corp.-MacKinnie Oil & Drilling Co.'s No. 11 Thompson, in Lance Creek, made 95 bbl. an hour, initially, from the Leo, and Continental Oil Co.'s No. 3 Emil Rohlff made 38 bbl. an hour. Yale Petroleum Co.'s No. 2-A Owens, in Oregon basin, was completed for 725 bbl. in the Embar. Minnelusa Oil Corp.'s No. 1 Roney, on north flank of the Frannie structure, was dry and abandoned.

In Montana there were three completions, average wells, in Kevin-Sunburst and none in Cut Bank. R. C. Tarrant has made a location for a wildcat in the Valier district in Pondera County, south of the Cut Bank field. Kevin-Sunburst had five new operations.

Petroleum Products Corp. completed a 150-bbl. well on the Hospah dome, McKinley County, New Mexico.

NEW MEXICO

A continued upturn in drilling activity was again registered in the Southeast New Mexico district the past week. A total of seven new locations were staked, two being in Eddy County and five in Lea County, New completions showed the greatest increase, there being a total of 21 listed. Eleven of the completions were in Eddy County, one a failure in the High Lonesome field, one a failure in the Artesia field, one a gas well in the Loco Hills field, and the remainder good oil wells.

The High Lonesome field's failure was H. S. Wilder's No. 1 Young, SE NW Section 23-16-29, which was quit at a total depth of 3,095 ft. In the Artesia field, H. W. Crumley plugged and abandoned his No. 1 Levers at a total depth of 3,380 ft. It was in Section 34-17-28.

Lea County registered 10 completions, all for oil wells. The Vacuum field led with four completions. Two were listed for the Skelly field, two for the Arrowhead field and one each in the Maljamar and Mattix fields.

Dona Ana County

Picacho O. & G. Co.'s No. 12 Armstrong, Sec. 15-23s-1w. W.O.C. 2,660 ft.

Slack & Mahres' No. 1 Simmons, Sec. 35-22s-5e. Setting whipstock at 2,785 ft.; T.D.

Eddy County

Sanders Bros.' No. 1 De Temple, NW NW Sec. 27-19-31. S.D.O. 2,410 ft.

Bassett & Birney's No. 1 Platt, SW cor. Sec. 26-18-26. Old failure being D.D. below 2,342 ft.; P.B. 1,125 ft.; shot 160 qt., 1,080-1,122 ft., S.S.O.; reshot 470 qt.; csg. split, H.F.W.; S.D.O.

Max Weathers' No. 1 Flood, SE SE Sec. 24-18-23. S.D.O. 1,740 ft.

M. Yates, Jr.'s No. 1 McCall, SW SW Sec. 24-18-26. R.U. spdr. 873 ft.

Jack Harris' No. 1 Josey, SW SE Sec. 19-20-23. S.D.R. 286 ft.

Schumacker's No. 1 Levers, NE NE Sec. 33-16-29. Drlg. 2,274 ft.

J. B. Mulcock's No. 1 Etz, 660 ft. from S and W lines, Sec. 25-16-30. S.D.R. 2,530 ft.

Everts & Moran's No. 1 Ranuz, NE NW Sec. 18-23-26. T.D. 1,373 ft.; U.R.

J. B. Cowden's No. 1 State, SW SE Sec. 3-17-20, between Root field and High Lonesome field. R.U. mach.

G. A. Grober's No. 1 Wright, 1,080 ft. from N and W lines, Sec. 25-18-28. S.O.&G. 1,382 ft.; est. 10 B.O. P.D.; P.B. 2,398 ft., prep. shoot.

Bedingfield & Walker's No. 1 Seale, SE SE Sec. 10-20-27. Spd. and S.D.

G. M. Cone's No. 1 Hare, NW NW NE Sec. 14-16-28, 3 mi. W of High Lonesome field. S.D.R. 1,400 ft.

Artesia Drlg. Co.'s No. 1 Hoffman, SE SE SE Sec. 14-17-24. Est. 1,250,000 cu. ft. at 938 ft.; drlg. 1,245 ft.

Frederick's No. 1 Reed, 1,980 ft. from S and W lines, Sec. 28-24-28. O.W.D.D.; top gas sand 2,891 ft.; est. 2,000,000 cu. ft. gas; casing set at 2,873 ft. and collapsed at 2,200 ft.; recmtd. csg.; W.O.C.

Thomas & Bowers' No. 1 H. W. Etz, 2,310 ft. from N and 330 ft. from W lines, Sec. 13-16-30. T.D. 3,744 ft.; P.B. 3,200 ft.; C.O. after shot from 3,140-60 ft.; before shot made 10 B.O.P.D.; flowing by heads through casing; T.D. 3,744 ft.; swbg. 13 B.O.P.D. through csg.

Luna County

O. D. Berry's No. 2 Berry, Sec. 33-22-10. T.D. 925 ft.; S.D.O.

Lea County

Gulf Oil Corp.'s No. 1 Amanda E. Drinkard, NW SE Sec. 25-22-37, in Skelly area; 5,000-ft. test. S.S.G. 3,794-3,804 ft.; made 5 gal. oil hourly; T.D. 3,958 ft.; prep. P.B. 3,545 ft.; test.

J. D. Barefield's No. 2 Stroup, 1,980 ft. from N and E lines, Sec. 12-18-32. S.D.O. 4,055 ft.; S.S.O. 4,040-50 ft.; 1 bailer oil after 2-day shutin; rng. electrical survey at 4,100 ft., S.S.O.&G.; S.D.O. 4,100 ft.; may D.D.

Stogner & Weiner's No. 1 State, SE SE Sec. 30-12-32. T.D. 1,373 ft.; P.B. 1,193 ft.; prep. drill by whipstock set at 1,343 ft.; T.D. 1,373 ft.

Stanley & Weiner's No. 1 Saunders, NE NE Sec. 20-21-38. Spd. and S.D.

Otero County

Ernest's No. 1 Ernest, Sec. 20-25-7. S.D.O. 3,204 ft.; S.S.G. 3,180 ft.

Otero Oil Co.'s No. 1 State, SE NW Sec. 5-22-10. S.D.O. 825 ft.

Socorro County

Joiner Oil Corp.'s No. 1 Belen grant, 2,310 ft. N and W lines, Sec. 16-3-1. S.D.O. 845 ft.

SOUTHEAST NEW MEXICO COMPLETIONS

Eddy County

High Lonesome field: H. S. Wilder's No. 1 Young, SE NW Section 23-16-29, plugged and abandoned at total depth of 3,095 ft.

Red Lakes field: C. B. Buck's No. 1 Lockhart-State, NE NE Section 1-17-29, made 10 bbl. oil and 10 bbl. water daily, pumping, from 2,110-43 ft.

Artesia area: J. W. Crumley's No. 1 Levers-State, Section 34-17-28, plugged and abandoned at total depth of 3,380 ft.

Leonard field: C. L. East's No. 1 Root made 47 bbl. daily, naturally, from 2,518-70 ft. Barnsdall Oil Co.'s No. 2-B Dodd, SE NE Section 14-17-29, made 110 bbl. in 8 hours after shot in pay from 2,481-97 ft.

Jackson field: Premier Petroleum Co.'s No. 6-F Beeson, SE NE Section 31-17-30, made 160 bbl. daily, naturally, from 2,861-77 ft. Emperor Oil Co.'s No. 6 Puckett, SE NE Section 17-24-31, made 100 bbl. daily, naturally, from 3,904-25 ft.

Loco Hills field: S. P. Yates' No. 6 Brainard, SE NW Section 3-18-29, made 38 bbl. in 3 hours after shot in pay from 2,593-2,742 ft. F. W. & Y. Oil Co.'s No. 1 Travis, SE SE Section 8-18-29, made 7 bbl. daily, swabbing through casing after shot in pay from 2,515-3,000 ft. Bassett & Birney's No. 6-B State, NW SE Section 11-18-29, made 7,300,000 cu. ft. sour gas and no oil through open casing after shot in pay from 2,618-80 ft. Brainard & Guy's No. 4 Guy, NW NW Section 15-18-29, made 50 bbl. swabbing and flowing through tubing after shot in pay from 2,525-2,620 ft.

Lea County

Maljamar field: B. Cockburn's No. 12-B Baish, NE SW Section 27-17-32, made 225 bbl. daily flowing through open tubing after shot from 3,937-4,011 ft.

Vacuum field: Magnolia Petroleum Co.'s No. 69 State-Bridges, SE NW Section 13-17-34, made 102 bbl. daily flowing after shot from 4,605-70 ft. Drilling & Exploration Co.'s No. 1-J State, SE SW Section 19-17-35, made 120 bbl. daily through 20/64-in. choke after acid from 4,570-4,700 ft. Phillips Petroleum Co.'s No. 4 Santa Fe, NW NW Section 35-17-35, made 150 bbl. in 6 hours flowing, naturally, through ½-in. choke from pay from 4,600-62 ft. Phillips Petroleum Co.'s No. 39 Santa Fe, NW NW Section 4-18-35, made 72 bbl. in 18 hours, pumping after shot and acid from 4,456-4,634 ft.

Arrowhead field: Cities Service Oil Co.'s No. 3-N State, SE SW Section 3-22-36, made 155 bbl. in 5 hours flowing naturally through open tubing from pay from 3,705-3,820 ft. Continental Oil Co.'s No. 8-J-2 State, SE SW Section 2-22-36, made 204 bbl. in 2 hours, naturally, through ¾-in. choke from pay from 3,750-3,804 ft.

Skelly field: Skelly Oil Co.'s No. 11 H. O. Sims, NE SE Section 33-22-37, made 143 bbl. daily after shot in pay from 3,540-3,684 ft. Skelly Oil Co.'s No. 10 H. O. Sims, SW SW Section 34-22-37, made 396 bbl. in 21 hours after shot in pay from 3,555-3,666 ft.

Mattix field: Gulf Oil Corp.'s No. 3 Carr, NE SW Section 10-24-31, made 42 bbl. daily after shot in pay from 3,445-3,580 ft.

NORTHWEST NEW MEXICO

McKinley County

Petroleum Products Corp.'s No. 7 Santa Fe, C SW SW Section 36-18n-9w, Hospah field, was reported completed in the Hospah sand, topped at 1,615 ft.. for 150 bbl. per day, estimated.

Teague, Greer et al's No. 1 Santa Fe, Sec. 33-18n-10w. S.D. 920 ft., for csg.

Rio Arriba County

Lafayette M. Hughes-Continental Oil Co.'s No. 1 Jacarilla-Apache, CSL SE NE Sec. 22-31n-1w. Drlg. 1,425 ft.; 10-in. set at 496 ft.

San Juan County

Continental Oil Co.'s No. 107 Rattlesnake, C E½ NW Sec. 13-29n-19w. T.D. 110 ft.; cmtd. 8⅝-in. at 27 ft.

Southern Union Prod. Co.'s No. 11-G, CEL NE SE Sec. 25-28n-11w. S.D.O. at 2,060 ft.

Claude Carroll's No. 1 Cornell, C SW NE Sec. 11-29n-12w. Drlg. below 950 ft.

Kutz Deep Test, Inc.'s No. 1 Govt., C NW NW Sec. 28-28n-10w. T.D. 1,250 ft.; U.R. 12½-in. from 950 ft. to bttm.

San Miguel County

Southwest Drilling, Inc.'s No. 1 Conchas, NW NE Sec. 34-17n-21e. Drlg. 2,195 ft.

COLORADO

El Paso County

F. F. Hintze et al's No. 1 State, CEL SE SE Sec. 16-11s-60w. T.D. 1,450 ft.; U.R. 8½-in.

Larimer County

Continental Oil Co.'s No. 1 Whitaker, NE NW NW Section 30-8n-68w, Fort Collins field, swabbed 36 bbl. in 24 hours from the Dakota at 4,693-98 ft., and then pumped 22 bbl. in like period. On the second day's pumping test it made 16 bbl. It may drill a few feet deeper before completing. This was the discovery well in the Muddy sand at 4,475-4,504 ft. in 1924, making 800 bbl. initially. It is a southwest offset to No. 1 Meyer, the first well on the structure to be drilled to the Dakota and which was completed last fall for 300 bbl. of oil and 50 bbl. of water.

Ed Shogren et al's No. 1 Frazier, SE SE Sec. 31-4n-69w. S.D. 1,127 ft.; T. Hyg. 1,123 ft.; good S.O. followed by wtr.; may go to Muddy sd.

Las Animas County

Hulme-Johnston-Allison's No. 1 Azar, SE SE NW Sec. 27-34s-58w. S.D. 2,300 ft. to renew leases; will res. about July 15.

Moffat County

Mountain Fuel Supply Co.'s No. 5-A Wilson, SW SW NW Section 23-12n-100w, Hiawatha field, averaged 281 bbl. per day on a 7-day pumping test from three sands in the Wasatch through perforated casing at 2,592 ft., total depth. Sands were at 2,074-2,115 ft.; 2,274-2,315 ft., and 2,482-2,522 ft. This is less than was expected from testing of sands separately. It is a northeast offset to No. 1 Kuykendall, which averaged 190 bbl. per day the past winter.

Mountain Fuel Supply Co.'s No. 2-A Kuykendall, SW NW NW Sec. 23-12n-100w. R.U.R.

Steamboat Springs Synd.'s No. 1 Sutton, NE NE SW Sec. 1-5n-96w. Drlg. sd. 2,160 ft.

Park County

Scuth Park Oil Co.'s No. 1 Lemar, NE NE SE Sec. 34-11s-75w. Drlg. 7,340 ft.

Rio Blanco County

Texas Co.-California Co.'s No. 3 Unit, NE NE NE Section 27-3n-94w, Wilson Creek, had water in the Morrison sand and it is shut down for orders at 6,333 ft. It had the top of the Morrison at 5,897 ft. Top of Dakota was at 5,838 ft. Location is 1¼ miles north and west of the discovery and 1 mile northeast of No. 2 Unit. It ran low by about 100 ft. according to unofficial estimates. Location has been made for No. 4 Unit, approximately 1 mile to the south of the discovery well.

Texas Co.-California Co.'s No. 4 Unit, NW NW NW Sec. 2-2n-94w. Grading loc.; (first report).

W. L. W. Roy. Corp.'s No. 1 Rector, SE Sec. 34-2n-102w. S.D. temp. at 1,443 ft.

Raven O. & R. Co.'s No. 30, SE NW NE Sec. 31-2n-102w. R.U.C.T.; (first report).

WYOMING

Albany County

Metzger & Deter's No. 1 Nelson, SE SE SE Sec. 12-14n-75w, Hutton Lake dist. Drlg. 900 ft.; 8¼-in. at 266 ft.; wtr. in Muddy at 775-818 ft.

Ohio Oil Co.'s No. 1 Coughlin, SW NE NW Sec. 26-16n-77w. Drld. out cmt. to 3,865 ft.; no results; will P.B. and test upper horizons.

Big Horn County

Ohio Oil Co.'s No. 3 Davis, NW SW NW Sec. 34-56n-97w. Drlg. 1,655 ft.
McDonald & Curtis' No. 1 Orchard, SE NW Sec. 24-51n-93w. Drlg. 460 ft.
Frank S. Scott's No. 1 Robertson, SE SE SE Sec. 6-54n-93w. Drlg. Embar 727 ft.

Carbon County

Sinclair-Wyoming Oil Co.'s No. 14 Unit, NW SW NE Sec. 7-26n-89w. Drlg. r.b. 4,853 ft.
Albert Dev. Synd.'s No. 1 Boeke, SW NW Sec. 18-25n-79w. Drlg. 970 ft.; cmtd. 6⅝-in. at 930 ft.
Tri-State O. & G. Co.'s No. 17, NW SE NW Sec. 20-21n-80w. T.D. 630 ft.; U.R. 6¼-in. to bttm.

Converse County

U. & I. Synd.'s No. 1 Beaver, SE NW Sec. 29-35n-68w. Drlg. below 400 ft.

Fremont County

Logue Trust Co.'s No. 1 Wisner, Government Draw dist., NE SW Sec. 8-33n-98w. Drlg. Cody sh. 802 ft.
Sinclair-Wyoming Oil Co.'s No. 12 Unit, SW SE NW Sec. 23-32n-95w. T.D. 3,832 ft.; cmtd. 7-in. at 3,819 ft.; will perf. and test gas in Frontier.
Pilot Oil Co.'s No. 6 Enos, SE SE NE Sec. 21-3n-1w. Cmtd. 12½-in. on bttm. at 120 ft.

Crook County

Union Oil Co. of Calif.'s No. 1 Casey, SE NE NW Sec. 3-57n-62w. Drlg. 3,300 ft.; S.O. in upper Minnelusa.

Hot Springs County

Boybell Oil Co.'s No. 2 Kyne, NW SE SW Sec. 22-43n-92w. S.D.O. 700 ft.; wtr.

Lincoln County

H. C. Harris et al's No. 1 Govt., SE NW NW Sec. 23-21n-117w. Drlg. 3,028 ft.
Fontenelle Dev. Co.'s No. 1 Pomroy, NE SW Sec. 5-24n-113w. Drlg. 1,125 ft.

Natrona County

General Pet. Corp.'s No. 31-21-G, NW NE NW Sec. 21-35n-77w. Cmtd. 7-in. on T. Shannon sd. at 4,520 ft.; W.O.C.
Lewis Gebhart's No. 1 Govt., NW NE SE Sec. 10-39n-78w. Drlg. 1,360 ft.
Continental Oil Co.'s No. 1 McGrath, C NW SW Sec. 15-34n-78w. T.D. 8,343 ft.; P.B. to test Dak.; set 176 ft. of 4½-in. at 6,390 ft.; bld. 6 B.O. and 26 B.W. in 24 hrs.; P.B. to test basal Wall Crk. at 5,630-80 ft.; set whpstk. at 5,564-75 ft.
Royal Oil Corp.'s No. 1, SW SW SW Sec. 26-35n-80w. Drlg. 215 ft.; 12½-in. at 155 ft.

Niobrara County

Lance Creek had two completions, both inside wells.

Minnelusa Oil Corp.-MacKinnie Oil & Drilling Co.'s No. 11 Thompson, NW SE NW Section 7-35n-65w, was completed in the Leo sand at 5,403 ft., total depth, for 95 bbl. per hour. Top of sand was at 5,371 ft. and the 7-in. was cemented at 5,369 ft.

Continental Oil Co.'s No. 3 Emil Rohlff, SE SW NW Section 32-36n-65w, made 38 bbl. an hour, initially, at 5,411 ft., total depth, from the Leo sand at 5,394-5,411 ft. after plugging off bottom water. Before shutting off water it made 587 bbl. of oil and 86 bbl. of water in 24 hours. There were no new operations.

Ohio Oil Co.'s No. 15 Lamb, Acct. 1, NW SE SE Sec. 32-36n-65w. Drlg. 2,677 ft.
A. B. Cobb's No. 1 Novick, SE NE NW Sec. 6-35n-65w. Drlg. 4,564 ft.; D.S.T. at 4,094 ft. showed wtr.
Continental Oil Co.'s No. 19 Tom Bell, NW NE SE Sec. 33-36n-65w. Drlg. 3,730 ft.
Argo Oil Co.'s No. 13-A Elliott, SE NE NW Sec. 5-35n-65w. Drlg. 5,120 ft.
Ohio Oil Co.'s No. 16 Lamb-1, NW NE NE Sec. 5-35n 65w. Drlg. 4,545 ft.; T. r.b. 3,974 ft.
Continental Oil Co.'s No. 7 Sam Joss, NW SW NE Sec. 6-35n-65w. Drlg. 4,980 ft.
Continental Oil Co.'s No. 11 Otto Rohlff, SE NE SE Sec. 31-36n-65w. Drlg. 4,689 ft.
Ohio Oil Co.'s No. 16 Putnam, SW SW NW Sec. 4-35n-65w. T.D. 5,529 ft.; P.B. to 5,457 ft.; perf. with 40 shots at 5,457-25 ft.; tstg.
H. D. Moore's No. 1 Berggren, SE NW Sec. 23-35n-63w. Drlg. 2,626 ft. in Minnelusa; wtr. sds. at 2,529 ft. and 2,620 ft.
Ohio Oil Co.'s No. 7 Rohlff, NW NE SE Sec. 32-36n-65w. M.I. rotary equip.
Continental Oil Co.'s No. 7-A Dielman, NW NE NW Sec. 8-35n-65w. Cmtd. 10¾-in. at 313 ft.; W.O.C.

Park County

Yale Petroleum Co.'s No. 2-A Owens, NE SW SW Section 29-52n-100w, on the north side of the Oregon Basin field, was completed in the Embar at 3,638 ft. for 725 bbl. per day, after acidizing. It topped the sand at 3,616 ft. The 8⅝-in. was set at 3,606 ft.

Minnelusa Oil Corp.'s No. 1 Roney, SW SW NW Section 24-58n-98w, ½ mile north and east of the nearest producers in the Frannie field, was plugged and abandoned at 3,866 ft. It had the top of the red beds at 2,810 ft. and the Embar at 3,458 ft. Apparently it ran into a faulted condition and redrilled the Embar after passing through the fault. Elevation is 4,616 ft.

Resolute Oil Co.'s No. 2 State, Badger Basin field, which has been shut in for 2 years at 8,690 ft., total depth, after plugging back to 8,519 ft. and showing for a small well in the Frontier, is rigging up rotary and will test the Dakota series at around 10,000 ft.

Resolute Oil Co.'s No. 2 State, C SW SW Sec. 16-57n-101w. T.D. 8,519 ft.; R.U.R. to D.D.

Sublette County

North La Barge Oil Co.'s No. 4 Govt., CSL SE NE Sec. 28-27n-113w. Drlg. 370 ft.
Charles Lackey et al's No. 1, NE SE SW Sec. 33-27n-113w. S.D. 105 ft.
Marvel Oil Co.'s No. 2-G, CNL NE SE Sec. 28-27n-113w. T.D. 1,073 ft.; U.R. 8⅝-in. from 602 ft.
Texas Co.'s No. 1-G Govt., NW NW SW Sec. 27-27n-113w. T.D. 1,075 ft.; completing.
Worth Garretson et al's No. 1, NE NW SE Sec. 28-27n-113w. S.D. 1,407 ft.; to install heavier rig.

Sweetwater County

Union Gas Co.'s No. 1 Hummer, NW NW NE Sec. 6-17n-103w. Cmtd. 10-in. at 320 ft.; W.O.C.
Mountain Fuel Supply Co.'s No. 1 Murphy, SE SE SE Sec. 27-17n-104w. Drlg. 3,855 ft.
Gus Pongratz et al's No. 1 Clark, C NW NE Sec. 22-19n-104w. Drlg. 2,100 ft.; (C.D.).
Red Desert Corp.'s No. 1 Aspden, NW SW NW Sec. 34-18n-103w. Drlg. 260 ft.
Vermillion Oil Co.'s No. 2 Govt., SW SW SW Sec. 7-12n-99w. Drlg. 2,830 ft.

Uinta County

Elynor Oil Co.'s No. 1, CEL SE SE Sec. 6-18n-116w. Drlg. 307 ft.
Spring Valley Pet. Co.'s No. 13, CSL SE SE Sec. 22-15n-117w. Drlg. below 2,000 ft.

Washakie County

Paul Boether's No. 1 Govt., SW SW NW Sec. 4-47n-90w. S.D. 2,467 ft. in Therm. sh.; cmtd. 7-in. at 2,317 ft.

Weston County

Charles Stough's No. 12, CWL SW NW Sec. 4-46n-63w. Drlg. 150 ft.
Pierre LaFleishe's No. 1 Dober, NE NE NE Sec. 21-45n-63w, 6 mi. S of Osage field. Spd. to 150 ft. and set 10¾-in.
Bruce C. Teeter's No. 1 State, C SW NE Sec. 36-32n-61w. T.D. 2,372 ft.; prep. to run csg. and test Sundance sd. at 982-1,072 ft.
John Brorphy's No. 1 Hansen, NW NE NW Sec. 13-44n-63w. Drlg. below 300 ft.

MONTANA

Carbon County

R. C. Tarrant's No. 2 McKay, C SE NW Sec. 4-6s-18e. Drlg. 3,005 ft.

Choteau County

Security Pet. Corp.'s No. 1 Johnson, C NE NE Sec. 23-26n-3e. T.D. 2,204 ft.; U.R. 6⅝-in.; wtr. in T. Mad. at 2,137 ft.

(Continued on Page 73)

THE NEW "TOLEDO" SIMPACT 1" TO 2" SELF-CONTAINED RATCHET THREADER

We are proud to announce this new "TOLEDO" SIMPACT Ratchet Threader. A combination of the words "simple" and "compact" describes this tool perfectly.

One set of high steel dies threads 1" to 2" pipe. 24" handle. Oil pockets drip oil automatically on dies. Easiest operating. Lightest in weight—yet no die castings or light metal used. Finger tip die control. Positive taper steps back up dies—no cams to wear. Long life—easy centering pipe holder.

Folder sent on request or order from your dealer.

THE TOLEDO PIPE THREADING MACHINE CO.
TOLEDO, OHIO NEW YORK OFFICE, 72 LAFAYETTE ST.

"TOLEDO"

THERE IS ONLY ONE "QUALITY" GAUGE

It's very name is a description. The Ashcroft Quality Gauge has a patented rotary movement of phosphor bronze, monel bushings and monel link screws, with solid, one-piece connecting link. Accuracy—1% of scale.

Much extra value is built into the Ashcroft Quality Gauge. It will take plenty of abuse without showing wear or getting out of calibration.

You pay for "quality" in any gauge; why not be sure to get Ashcroft Quality Gauges?

Order from your local Jobber.

Branch Stocks in Tulsa and Los Angeles. Other branches in Dallas, Houston and New Orleans.

ASHCROFT GAUGES MANNING, MAXWELL & MOORE, INC. BRIDGEPORT CONNECTICUT

Development Declining With Only Routine Activity

By OTTO C. PRESSPRICH

SAGINAW, Mich., July 1.—Michigan oil development was in the doldrums last week with but 17 completions reported, seven of them being dry holes. The seven producers contributed only 980 bbl. to the potential daily production, individual wells ranging from 25 to 300 bbl.

Six of the completions, four of the producers and all but 250 bbl. of new production were recorded in Allegan County. Other producers were in the small Adams Township field of Arenac County, in Clare's Redding field and in Tallmadge of Ottawa.

Among the tests abandoned was Kirkham's No. 1 Whaley in Clam Lake Township, Wexford County. The test was drilled to 4,046 ft., running into Monroe water.

Sun Oil Co. was completing a wildcat produced in Grout Township of Gladwin County. The well, No. 1 Cameron, C E½ NE SE Section 10-18n-2w, was at 3,838 ft. and was being acid-treated. It was reported to have pumped about 20 bbl. in a day. A south offset is being planned. Sun controls most of the acreage in the district. Another wildcat, Sun's No. 1 Whitaker, NE NW NE Section 33 of Montcalm's Pine Township, 11n-8w, was reported to have a good show of oil in the Traverse limestone. However, there was some trouble with water.

Teater & Markle's No. 1 Johnston in Bloomfield Township, Huron County, first producer in that county, was disappointing. After acid treatment, water seeped into the hole, causing uncertainty as to future plans for the area. At first the owners had high hopes of the well being good for 200 bbl. a day, or better. Taggart Brothers, Inc., kept secret the results of its wildcat gas test in Section 22-21n-7w, Riverside Township, Missaukee County. Rumors were that considerable gas was encountered in the Michigan stray sand, which, if true, indicate a new field.

The number of new drilling permits issued by the state Conservation Department also was smaller than usual. The total was 16, bringing the number for the year to 576. Allegan County again led the list with six locations, three of them in Overisel Township, where the field recently was extended. Two permits were issued for Van Buren County, two for Arenac, and Barry, Clare, Gratiot, Gladwin, Isabella and Ottawa counties each got one.

Summary of last week's completions follows:

Allegan County

Heath Township (3n-14w): Lang & Lewis' No. 1 Kerwacker, NW SE SW Section 3, was a dry hole. It was abandoned when the hole reached a depth of 1,595 ft. After acidizing, production was 30 bbl. a day from Wiser Oil Co.'s No. 3 Klein, NE SW SE Section 4, total depth being 1,492 ft. Fletcher-Leman's No. 3 Van-Sweden, SE NW SE Section 4, was good for 250 bbl. a day after being acidized, at a depth of 1,474 ft.

Overisel Township (4n-14w): N. R. Dodd's No. 1 Michnerhuizen, SE SE SW Section 5, was abandoned as a dry hole at 1,550 ft., while Nelson's No. 1 Peters, NW NW SW Section 9, was completed at 1,485 ft. and got initial afteracid production of 300 bbl. a day.

Salem Township (4n-13w): Jones & Abele's No. 1 Huizinga, NE NW SW Section 15, was good for 150 bbl. a day, after being acidized, at 1,587 ft.

Arenac County

Adams Township (19n-3e): Don Rayburn completed No. 1 Milne, SW SW SE Section 19, at 2,066 ft. After acidizing, the well rated 150 bbl. a day, initially.

Whitney Township (20n-7e): Great Western Petroleum Co.'s No. 1 Petty, SE NE NW Section 33, was abandoned dry at 2,688 ft.

Clare County

Redding Township (19n-6w): No. 2 Luce, C S½ NE NW Section 32, a Pure Oil Co. project, was completed at a depth of 3,861 ft. After being acidized, the well was good for 75 bbl. a day.

Ottawa County

Blendon Township (6n-14w): Smith Petroleum Co.'s No. 1 Velthouse, SW SE SW Section 5, was abandoned at 1,683 ft.

Holland Township (5n-15w): Crown Development Co.'s No. 3 Reimold, NW SW SE Section 34, abandoned as a dry hole at 2,455 ft.

Tallmadge Township (7n-13w): George Kernodle's No. 1 Masterson, SE SW SE Section 23, was good for 25 bbl. a day after being acid-treated. Depth of the well is 1,869 ft.

Roscommon County

Roscommon Township (22n-4w): Sun Oil Co.'s No. 1 Hollister-Hogan wildcat, C W½ NW SW Section 6, failed to show oil and was abandoned at a depth of 3,765 ft.

Wexford County

Clam Lake Township (21n-9w): Virgil R. D. Kirkham's No. 1 Whaley, SW SW SE Section 21, was abandoned dry at a depth of 4,046 ft.

Eastern Kentucky

(Continued from Page 48)

in shale. The well is producing 353,000 cu. ft. of gas; 445 lb. rock pressure; 48-hour test.

C. J. Sipple & Co. has completed No. 9, on the William Salyer land on Birch Branch in the Burning Fork district of Magoffin County. The well reached a total depth of 1,081 ft. with a daily flow of 5 bbl. of oil.

Kentucky-West Virginia Gas Co. reported the completion of No. 5262 on the W. R. Wall land on Johns Fork of Left Beaver in Floyd County. The well reached a total depth of 3,100 ft., in shale. The well is producing 103,000 cu. ft. of gas; 252 lb. rock pressure; 11-hour test.

PATTERSON-BALLAGH

TUBING PROTECTORS

In Service 18 Months
With Barely a Scratch

From Arkansas come reports that Patterson-Ballagh Tubing Protectors have been installed in one of the worst wells operated by a large drilling company constantly for 18 months. Upon inspection the Protectors appear practically new.

These Tubing Protectors are made of a special molded, reinforced plastic material fabricated on to the Tubing Collar. They definitely reduce the expense of pumping wells. Shock is greatly reduced. Wear on the casing, caused by pulsation of the collars in crooked wells, is greatly reduced. Supplied as an assembled unit of Collar and Protector.

Write for catalog or see Composite Catalog

PATTERSON-BALLAGH CORPORATION

Plant and General Office: 1900 East 65th Street, Los Angeles, Calif.
Mid-Continent General Office: 1506 Maury Street, Houston, Tex.
New York Office: 92 Liberty Street, New York City

FLAMENOL

Reg. U. S. Pat. Off.

WIRE RESISTS OIL

OTHER FEATURES

Flame resistance—*Will not support combustion.*
Long life—*Shows no signs of deterioration with age; does not oxidize and should last for years.*
Tough—*Tensile strength of 2000 lb per sq in.*
Dielectric strength—*720 volts per mil (test result).*
Small size—*Single covering saves space, makes wiring easy.*
12 colors—*Easy to trace circuits. Attractive appearance.*
Also, *free stripping, easy pulling; resists weak acids, alkalies, and water.*

At the end of 1939, sales of Flamenol wire and cable had reached the total of 45,000,000 feet. Chief reason for this widespread acceptance appears to be oil resistance.

For example, try this simple test: Put samples of rubber wire and Flamenol wire in oil for a month or so. Then note how the rubber has swelled, while Flamenol has not changed. We'll gladly send samples of Flamenol wire.

See, too, the other unique features—all reasons why Flamenol has proved to be the solution of many a troublesome wiring problem. Bulletin GEA-2733 gives details. Address nearest G-E Office, or General Electric, Schenectady, N. Y.

500-12

GENERAL ELECTRIC

Jackson County Wildcat Has Commercial Gas Showing

By STAFF CORRESPONDENT

PITTSBURGH, Pa., July 1. — In Jackson County, West Virginia, the wildcat of Joe Rubin and others on the C. E. Andricks farm in Grant district is showing enough gas for a commercial well. The Oriskany sand was topped at 4,997 ft. after a Corniferous lime section of 112 ft., and at 5,003½ ft. there was an open flow of 184,000 cu. ft. a day which increased in volume to 380,000 cu. ft. at 5,014½ ft. It is now drilling at 5,022 ft., and, unless water intrudes, the sand section will be drilled through. At the present depth the sand is very hard and the best sand appeared at 5,002½-03½ ft, and is far less bonded with silica than in the two previous tests.

This test is 2.05 miles south of Lat. 39° 0″ and .65 mile west of Long 81° 35″. It is east by north of the D. P. Curry discovery well about 2 miles and extends a possible gas pool in this county as it topped the Corniferous lime 340 ft. lower on structure than No. 1 Henry Morrison.

During the past week in the lower eastern fields 33 operations were completed, of which 9 were dry, 2 input wells in water flooding, 12 gas wells and 10 oil wells with a daily initial of only 49 bbl.

SOUTHEAST OHIO

The shallow-sand area in Medina County is still very active. In Chatham Township, Section 19, Preston Oil Co. completed Nos. 6, 7, 8, and 9 on the M. H. Packard farm at 484 ft., 491 ft., 503 ft., and 500 ft., respectively, the Berea grit. The results were: No. 6 good for 15 bbl. a day; No. 7 for 5 bbl.; No. 8 was dry; No. 9 for 10 bbl. a day after shot. In this township, Tract 10, Lot 3, Thornton Producing Co. completed Nos. F-19 and F20 as small producers from the Berea grit at 392 ft. and 420 ft. This company also completed input wells on this lease No. 012A and 023A at 409 ft. and 399 ft.

In Licking County Guy L. Shrider and others completed a test on the Ed McKinney farm near Vanatta Village, Section 25, Newton Township, in the Berea sand at 530 ft. a 2-bbl. pumper.

In Perry County, Atha Oil Co. completed No. 2 J. C. McCullough, SW Section 17, Madison Township, in the Clinton sand at 3,065 ft., gaging 1,250,000 cu. ft. a day with no showing of oil. In the NW Section 18, Clayton Township, Preston Oil Co. completed No. 3 Albert C. Randolph in the Clinton sand at 3,260 ft., good for 10 bbl. a day and 100,000 cu. ft. of gas after shot.

WEST VIRGINIA

During the week three small producers were completed in West Virginia. In Boone County Sayre Oil & Gas Co. completed a test on the A. Hill farm in Scott district in the Salt sand at 711 ft., good for 2 bbl. In Hancock County R. J. Braden Co. completed No. 56 C. E. Brenneman at 850 ft., the Berea sand, good for 2 bbl. In Murphy district, Ritchie County, Camp Run Oil & Gas Co. completed No. 1 Sarah and Fannie Starr heirs at 2,183 ft. good for 1 bbl. with 29,112 cu. ft. of gas.

In Clay district, Ritchie County, McBurney and others drilled No. 1 A. M. and Ethel Perkins through the Cow Run sand to 788 ft. and it was dry. They drilled No. 1 Roscoe McCullough to 1,186 ft., Cow Run sand, and it was also dry.

Gas Wells

In Boone County Owens-Libby-Owens Gas Department completed No. 4 H. C. Ballard in Scott district at 2,029 ft., gaging 135,000 cu. ft. from the Big lime and Berea. Cameron Oil & Gas Co. deepened No. 5 George P. Alderson to 4,509; Corniferous lime 4,509 ft., and it will make a gas well.

In Clay County Pittsburgh & West Virginia Gas Co. drilled No. 7710 P. M. Summers and others in Buffalo district to 1,666 ft. and it was dry in the Injun sand.

In Gilmer County L. D. Nutter and others completed No. 1 L. F. Wolfe in DeKalb district at 1,545 ft., with 37,320 cu. ft. of gas a day before shot at 1,469 ft.

In Lincoln County Harmon Gas Co. completed No. 1 Albert Bragg in Union district at 3,638 ft., gaging 160,000 cu. ft. after shot. In Sheridan district R. E. Turley, trustee, deepened No. 1 W. S. and Viney Snodgrass to 3,204 ft., gaging 37,320 cu. ft. 24 hours after shot.

In Ritchie County Carnegie Natural Gas Co. deepened No. 3 Mary E. Dotson in Clay district to 1,912 ft., where the tools were lost and hole plugged.

In Upshur County Cumberland & Allegheny Co. completed No. 296 E. J. Smallridge in Meade district at 4,370 ft., with the Benson sand at 3,932-40 ft., and it was dry.

In Wirt County W. C. Patterson drilled No. 4 fee in Clay district through the Cow Run sand to 750 ft. and it was dry.

Oriskany Gas Field

In Poca district, Kanawha County, Columbian Carbon Co. is completing No. 1 Joseph Hughart, with the Oriskany sand topped at 5,043 ft. and gaging 2,885,000 cu. ft. with the tools at 5,059 ft. This company is drilling No. 1 George W. Spencer at 730 ft., No. 1 D. W. Taylor and others at 2,934 ft., No. 1 Donald L. Cork at 1,125 ft., and is shut down at 1,060 ft. in No. 1 Fay E. Hughart.

Jackson County

In the Oriskany field extension in Jackson County Columbian Carbon Co. completed No. 1 Docia A. Young in Ripley district at 5,271 ft., with the Corniferous lime topped at 5,070 ft.; Oriskany, 5,174 ft.; break, 5,223-32 ft.; sand, 5,232-60 ft.; gas, 5,178-5,222 ft. The final gage was 5,512,000 cu. ft. with a rock pressure of 1,700 lb. in 72 hours. This company is building a rig on the J. W. Whetherholt farm, and in Washington district is testing No. 2 Helen M. Hoge and starting No. 3.

In Washington district R. E. McCabe completed No. 1 Wilford Hulton at 5,284 ft. with a surface elevation of 958.8 ft., Corniferous lime was 5,154-5,267 ft.; Oriskany, 5,267 ft.; and a final gage of 14,391,000 cu. ft. In Ripley district this operator is drilling No. 1 Boggess and Fisher at 4,991 ft.

In Ripley district Joe Rubin is drilling No. 1 Clarence Pfost at 1,720 ft.; Cherrington Corp., part material for No. 1 W. T. Boggess and others; Godfrey L. Cabot, Inc.'s No. 7 Putnam Co. is at 2,600 ft.

SOUTHWEST PENNSYLVANIA

In Allegheny County Dwight Campbell drilled a test on the M. Sterling heirs farm in West Deer Township to 1,868 ft. with the Fourth sand at 1,833-50 ft. and showing only 25,000 cu. ft. of gas a day. It will be plugged and abandoned. In this township Larkin and others are drilling No. 2 C. H. Curch and have reached 1,755 ft.

In Butler County Waltman Brothers drilled on the W. A. Mahon farm in Middlesex Township to 1,849 ft., with the Fourth sand at 1,830-46 ft., and dry. Larkin & Co. are still testing the No. 2 G. Jeuther at 2,770 ft.

Armstrong County

In Cowanshannock Township, Armstrong County, Peoples Natural Gas Co. completed No. 2 Lee Bell at 3,619 ft. and it gages 700,000 cu. ft. a day. Equitable Gas Co. has started deepening No. 3 G. W. Smeltzer from 1,755 ft. and has reached 1,925 ft.

In Wayne Township the Watson estate completed a test on the W. D. MacIntire farm at 3,372 ft. with 231,000 cu. ft. of gas a day from the Speechley sand. R. C. Galbreath Co. is drilling No. 2 John Dormire at 1,480 ft.

In Kittanning Township Edward Young is drilling No. 2 Hugh Blair at 3,100 ft. and H. C. Judson No. 1 Robert Watterman at 935 ft. In Mahoning Township Penn Wayne Gas Co. is drilling No. 1 Elizabeth Foster at 875 ft. and John Wray & Co. No. 1 King Shaffer at 480 ft., with a fishing job on hand. In Plum Creek Township William McCollins is drilling No. 2 Add Reefer at 540 ft. and Peoples Natural Gas Co. No. 1 John Shetler at 2,040 ft. In Burrell Township Equitable Gas Co. will deepen No. 2 James Deshong.

Indiana-Clarion-Westmoreland

In Indiana County T. W. Phillips Gas & Oil Co. is drilling the following: Washington Township, No. 1 Louisa Black at 3,100 ft., No. 1 Lavina Richard at 3,180 ft., No. 1 Charles T. Fleming at 791 ft.; White Township, No. 1 Laura Campbell at 2,096 ft.; Center Township, No. 1 R. & P. Coal Co. at 2,938 ft. and No. 2 at 840 ft.; Brush Valley Township, No. 1 Jesse A. Boyer at 2,061 ft. In South Mahoning Township John Wray & Co. has rig up for No. 2 James Lukehart. In Armstrong Township J. C. Rinn is drilling No. 2 Perdon heirs at 890 ft.

In Clarion County T. W. Phillips Gas & Oil Co. is drilling No. 2 David McKinley in Red Bank Township at 500 ft. and in Monroe Township No. 2 Charles Byers at 1,825 ft. Owens-Illinois Glass Co. is drilling No. 1 P. M. Smathers at 700 ft. In Porter Township Cottage Hill Gas Co. is drilling No. 1 E. M. Reitz at 2,100 ft. and T. A. Swartzfager No. 4 C. A. Swartzfager at 1,360 ft.

Fayette-Greene-Washington

In Menallen Township, Fayette County, Wahler Powers Oil & Gas Co. is drilling No. 1 W. L. Rockwell at 705 ft. and is shut down at 2,240 ft. testing No. 2 Shamrock Farm Co. In German Township J. H. Carnell is drilling No. 1 Marion Kurzankuski at 1,710 ft.

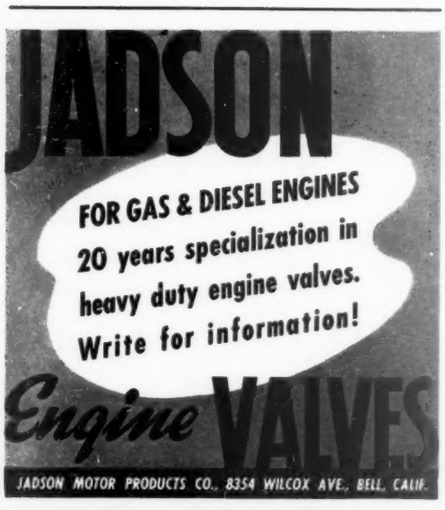
In Morris Township, Greene County, Romney Rutan and others are moving on the Alfred Rutan farm. Hiawatha Oil Co. is drilling No. 1 Young heirs at 3,045 ft. with the Fifty-foot sand at 2,869-2,922 ft.; show gas, 2,873-75 ft.; Gordon sand topped at 3,039 ft.; show gas, 3,042 ft.

In Amwell Township, Washington County, Equitable Gas Co. is drilling No. 1 R. Foster at 2,595 ft. In Somerset Township this company is drilling No. 1 W. W. Wright at 1,844 ft., with the Big Injun sand at 1,560-1,815 ft. and 200,000 cu. ft. of gas at 1,685 ft., which soon was exhausted.

Deep Tests

On Chestnut Ridge, South Union Township, Fayette County, New Penn Development Co., William E. Snee, and others are deepening No. 2 Summit Hotel (Heyn) and have made only 7 ft. progress to 6,774 ft. The Onondaga chert here is very hard. No increase in gas. Peoples Natural Gas Co. is drilling No. 2 Piedmont Coal Co. at 4,968 ft.

In Maryland New Penn Development Co. and William E. Snee are drilling No. 1 Humerson on Accident dome, in Garrett County, at 6,774 ft.; no evidence of Onondaga has been found. On Laurel Ridge, Stewart Township, Fayette County, these operators and E. G. Mueller are drilling No. 1 Gregg L. Neel at 7,414 ft. and should reach the Onondaga shortly.


JADSON
FOR GAS & DIESEL ENGINES
20 years specialization in heavy duty engine valves.
Write for information!
Engine VALVES
JADSON MOTOR PRODUCTS CO., 8354 WILCOX AVE., BELL, CALIF.

Texas and Louisiana Gulf

By
NEIL WILLIAMS

New Pools in Three Coastal Counties, Others in Prospect

HOUSTON, Tex., July 1.—Rowans & Nichols opened a new oil field for the Texas Gulf Coast sector as No. 1 G. Hubbard, located in the Liverpool area, Brazoria County, was flowing into the burning pits at the rate of 4 bbl. of fluid per hour of which 20 per cent was 39.5-gravity oil and the balance wash water. The well is cleaning through ⅛-in. choke under a tubing pressure of 600 lb., and casing pressure 900 lb. Drilled to a total depth of 10,008 ft., production was obtained by perforating casing opposite oil sand in the Frio formation at 8,538-54 ft. The new discovery is located about 6½ miles southwest of the town of Alvin in the William M. Harris Survey in an area which has been worked extensively with geophysical instruments. Offset acreage is held by Humble Oil & Refining Co. and Tide Water Associated Oil Co., while several other major companies hold close-in protection.

With the completion of the above well, interest in the county shifted to the Bailey's Prairie prospect, where Glenn H. McCarthy is preparing to make a production test of No. 1 W. B. Munson which may establish a new producing depth record for the Texas coast. The well is bottomed at 11,870 ft., with 5½-in. casing cemented at 11,850 ft. This well has been drilled "tight" and details of the core record are not available. It is reported that several possible oil and gas sands were logged at intervals from 10,000 ft., to the total depth. Location is in the Samuel Carter Survey, approximately 7½ miles southwest of the town of Angleton.

New Matagorda County Field

The Blessing area, Matagorda County, was added to the list of producing fields in the district as Texas Co. completed No. 1 A. B. Pierce as a gas and distillate producer. Additional perforations were made in the casing at 8,265-90 ft., and the well flowed 36 bbl. of 56 water-white distillate in 21 hours, flowing through ⅛-in. choke. Tubing pressure is 2,950 lb., and shut-in casing pressure 1,450 lb. The well was killed the previous week after it flowed an unestimated amount of gas and distillate from perforated casing at 8,290-8,300 ft. Location is on a block of several thousand acres centering around the H.&G.N. Survey, about 1½ miles southwest of the town of Blessing.

Humble Oil & Refining Co.'s No. 1 State, a prospective pool opener located offshore from Chambers County on what is known as the Red Fish Reef prospect in Galveston Bay, is coring ahead in shale below 9,280 ft., after a string of 7-in. casing was cemented at 9,224 ft. This well logged several showings of oil and gas in cores at intervals from 9,025-9,145 ft., and no drill-stem test was attempted before coring ahead. Details of the core record were published in the previous issue of The Oil and Gas Journal.

Prospect of opening production 2½ miles north of the Seabreeze field, Chambers County, was not encouraging as Sun Oil Co.'s No. 1 Smith, T.&N.O. Survey 82, flowed 150 bbl. of fluid per day through ¼-in. choke of which 1 to 80 per cent was salt water. Tubing pressure was 2,550 lb., and shut-in casing pressure 3,000 lb. The well was drilled to a total depth of 8,865 ft., and is being tested through perforations at 8,849-53 ft.

Lolita Field

With one well completed and two others preparing for production tests, increased drilling activity is anticipated for the newly opened Lolita field, Jackson County. Wellington Oil Co.'s No. 2 L. Ranch Co. flowed 265 bbl. per day through a 7/64-in. choke with tubing pressure 550 lb., and casing pressure 1,075 lb. The well is an offset to the discovery well, and was completed through perforated casing at 5,938-42 ft. The Frio section was topped at 5,337 ft. Magnolia Petroleum Co.'s No. 1 Four Way Ranch, a north offset to the discovery well, recovered several hundred feet of pipe-line oil on a 15-minute drill-stem test at 5,945-50 ft., and casing was cemented for completion. In the west extension area, and a south offset to Barnsdall Oil Co.'s No. 1 Lazarus, Magnolia Petroleum Co.'s No. 1 Susie Ward, recovered 46 stands of oil on a 15-minute drill-stem test at 5,922-32 ft., and casing was cemented for completion.

Location for another interesting wildcat was announced for Jackson County, as Barnsdall Oil Co. moved in material for No. 1 T. Prickett, a projected 6,500-ft. test located in the A. M. Clare Survey, about 6 miles north of La Ward.

Fannett Dome

On the northwest flank of the Fannett dome, Jefferson County, Gulf Oil Corp. is preparing to complete No. 5 Bordages. The well is bottomed at 8,257 ft., and 5½-in. casing was cemented at 8,245 ft. after an electrical survey showed the sand section at 8,193-8,223 ft.

Joyce Richardson's No. 1 Marks, the discovery well of the Ogburn field, Harris County, flowed 4½ bbl. of distillate per hour through a 7/64-in. choke with casing pressure 2,450 lb., and tubing pressure 2,450 lb. Gas volume was gaged at 1,940,000 cu. ft. per day. The well was drilled to a total depth of 7,248 ft., and was completed through perforated casing at 6,918-26 ft.

In the Goodrich area, San Jacinto County, Jack Frazier has taken over Shell Oil Co., Inc.'s No. 1 Coline, and is making a series of production tests of the Wilcox formation. A drill-stem test through perforated casing at 7,610-35 ft., recovered 770 ft. of 38-gravity oil and 910 ft. of salt water, while a second test through perforations at 7,805-10 ft. showed no pressure and 40 stands of salt water with a slight show of gas. A third test was being made at the close of the week.

In Hardin County and located in the Kountze area, Jack Frazier is moving in a rotary for No. 1 Nona Mills Co., a projected 8,500-ft. test in the S. B. Turner Survey.

Stanolind Oil & Gas Co.'s No. 1 Hulen, the discovery well of the Alta Loma field, Galveston County, flowed 920 bbl. of fluid per hour through two 1-in. flow lines with working pressure 900 lb., and casing pressure 1,100 lb. Sixty-five per cent of the fluid was sediment and water and the balance oil. Total production of the well as of June 26 was 220,429 bbl.

East of the North Houston area, Harris County, Martin Thompson's No. 1 Allen is waiting on orders at a total depth of 7,308 ft. An unsatisfactory 3-minute drill-stem test at 7,069-74 ft., recovered 450 ft. of mud. Additional sand showing gas was cored at 7,158-70 ft., while salt-water sand was drilled at 7,199-7,205 ft. Sand showing oil and gas was cored the previous week at intervals from 7,059-74 ft.

Coastal Louisiana

Along the Louisiana coast, California Co.'s No. 1 Delta Minerals, the discovery well of the Lake Salvador field, Plaquemines Parish, is being deepened after several attempts to eliminate salt-water encroachment failed. This well was originally completed through perforated casing at 9,963-74 ft., and was deepened to a total depth of 10,258 ft., where preparations are being made to drill deeper after a 109-minute drill-stem test at 10,165-10,258 ft., recovered 3,000 ft. of oil, gas and drilling mud. The well is located about 6 miles northeast of the Barataria field in Section 2-15s-10e.

In Cameron Parish, and located on the Calcasieu Lake salt dome, Superior Oil Co.'s No. 1 State is drilling in shale and sand below 9,080 ft. An electrical survey showed broken sand and shale showing oil at 8,558-78 ft. This is the third well to be drilled on the structure by the company, the other two wells having been abandoned after coring salt formation.

In the same parish and located on the Chenier prospect, Phillips Petroleum Co. was preparing to perforate casing in No. 1 Miami Corp. The well is bottomed in a sidetracked hole at 10,655 ft., and casing is being perforated preparatory to completing the well as a gas or distillate producer in a sand section logged by an electrical survey at 10,196-10,207 ft.

Erath Field

Another dry hole was marked up for the Erath field, Vermilion Parish, as Strake Petroleum, Inc., abandoned No. 1 Caldwell at a total depth of 11,608 ft. Location is in Section 41-13s-4e, about 4,900 ft. north of the discovery well. Texas Co.'s No. 1 Trahan, Section 22-13s-4e, is drilling in sand and shale below 10,817 ft. with no shows of oil or gas reported.

Vincent, Welch & Nichols' No. 1 R. McMannus, the discovery well of the Ritchie prospect, Acadia Parish, is still being tested, and on a recent gage the well flowed 17 bbl. of oil and 1,000,000 cu. ft. of gas daily through ¼-in. choke with tubing pressure 640 lb., and casing pressure 720 lb.

Danciger Oil & Refining Co.'s No. 1 G. E. LeRoy, a Tertiary Wilcox test in Section 2-3s-9e, Beauregard Parish, is drilling in shale and sand below 8,361 ft. The Sparta lime was cored at 7,255-87 ft., and the Wilcox section was cored at 8,325 ft. Top of the Wilcox section has not been determined. Sand and shale with a salt-water taste was cored at 8,325-59 ft.

Another prospective pool opener was marked off the list as Gulf Refining Co. abandoned No. 1-B Bowie Lumber Co. located on the Lake Beouf prospect in La Fourche Parish. The well was abandoned at a total depth of 12,512 ft., after a series of drill-stem tests at intervals from 11,140-12,240 ft., recovered salt water.

South of the Grand Lake field, Cameron Parish, Superior Oil Co. has taken a lease on approximately 9,370 acres from the Miami Corp., centering around Township 14s-3w. The land was leased after the area had been worked extensively with geophysical instruments.

The South Roanoke field, Jefferson Davis Parish, was extended to the east as Continental Oil Co.'s No. 2 Fay flowed at the rate of 250 bbl. of oil per day through a 7/64-in. choke from perforation made in the casing near the total depth of 9,957 ft. Location is in Section 31-10s-3w.

Continental Oil Co.'s No. 1 Niblett Farms, the discovery well of the Niblett field, Jefferson Davis Parish, is being recompleted in an attempt to increase production. Originally completed through perforated casing at 11,604-24 ft., the well has been flowing approximately 90 bbl. of 42-gravity oil per day through a 7/64-in. choke.

TEXAS GULF COAST COMPLETIONS IN PROVEN FIELDS

Brazoria County

Old Ocean field: Stanolind Oil & Gas Co.'s No. 1 Stevenson-Donovan, perforated casing 10,085-10,112 ft., and 10,060-72 ft., 362 bbl., ¼-in. choke.

Chambers County

Barbers Hill field: D. B. McDaniel's No. 7 Wilburn, sand 4,558-75 ft., 457 bbl., pumping.
Willow Slough field: Sun Oil Co.'s No. 3 Barrow, 8,912 ft., dry and abandoned.

Fort Bend County

Thompson field: Gulf Oil Corp.'s No. 16-B Wolters, sand 5,405-20 ft., 132 bbl., ¼-in. choke. Quintana Petroleum Corp.'s No. 17 Wolters, perforated casing 4,326-34 ft., 104 bbl., ⅛-in. choke.

Galveston County

League City field: Phillips Petroleum Co.'s No. 4 Stewart Title Guaranty Co., 11,270 ft.. abandoned.

Harris County

Clear Lake field: Humble Oil & Refining Co.'s No. 1 Martyn, 5,848 ft., 116 bbl., ⅛-in. choke.

(Continued on Page 73)

The
H. C. SMITH
T-39
wire line
CORE DRILL

HARD FORMATION CUTTER HEAD

H. C. SMITH T-39 WIRE LINE CORE DRILL

SOFT FORMATION CUTTER HEAD

Export Representative:
VAL R. WITTICH
30 Rockefeller Plaza, New York City

H C Smith Oil Tool Co.
GENERAL OFFICES AND PLANT
P. O. Box 431, Compton, Calif.

TRY THIS TEST . . . AT OUR EXPENSE!

RECTORSEAL, applied to a badly worn threaded connection and allowed to set up, held 2,700 pounds of water pressure and 2,700 pounds of kerosene pressure when made up hand tight . . . 4,800 pounds of water pressure and 4,300 pounds of kerosene pressure when made up with a 24" wrench. After the test, joints broke out readily . . . proof of no cementing action. We will gladly furnish free RECTORSEAL sample, upon request, for you to make this test against any other product on the market. Write Rector Well Equipment Co., Inc., Ft. Worth, Texas.

RECTORSEAL
THE POSITIVE LEAK PREVENTER

Among the Drilling

O. P. BUSH, drilling contractor of Fort Worth, Tex., has received contract from a group of Fort Worth operators for an Ordovician wildcat test in Brown County, West Central Texas. The operation, No. 1 J. H. Fry, will be for Simon & Wynn, G. F. Morrissey and Hill Brothers. The location is 1,150 ft. from the northeast corner of Block 33, John Williams Survey, about 10 miles south of Brownwood and on Pecan Bayou. Geology on the 2,000-acre block was reported worked by M. G. Cheney of Coleman. The Ellenburger lime of Ordovician is expected at about 1,250 ft.

FRED HART, drilling contractor of Baird, Tex., has opened a new producing area in Callahan County, West Central Texas, at the No. 1 Harris, which is being drilled for Huylar Lee of Abilene. The discovery is in Section 99, B.B.B.&C. Survey, 6 miles northwest of Baird. With official gage not yet reported, the well is estimated for 30 to 50 bbl. daily from the Tannehill sand drilled with saturation from 1,219-29 ft.

CURTIS CROW, drilling contractor of Mineral Wells, Tex., has been given the contract for a 5,000-ft. test in Palo Pinto County and between Oran and Graford. In wildcat territory, it is to be drilled for W. B. Davis and P. F. Cole. The location is on the Jess Rogers ranch and 457 ft. from the east and south lines of T.E.&L. Survey 894, Abstract 470, 1⅛ miles west of Oran. The geology was reported worked over by Homer Montgomery of Mineral Wells and J. D. Watson of Tulsa. Spudding of the new wildcat is scheduled for early this week.

WALTER K. WOODS, contractor of Albany, Tex., will drill a projected 4,000-ft. Ordovician wildcat test in Coleman County, West Central Texas, for R. H. Murray of Abilene. Equipment is being moved to the location, which is on the J. A. Norris estate, 467 ft. from the south and west lines of the northeast 160 acres of the James Greenwood Survey 304, 7 miles south of the Novice field. Claude F. Dalley of Fort Worth worked the geology on the drilling block.

RICHARDS & HOLLOWAY, INC., Tyler, Tex., a producing and contracting firm, has received drilling contract from James D. Hancock, of Dallas, Tex., for a wildcat test in Cooke County, North Texas. It will be No. 1 F. P. Alexander, located 660 ft. from the north and west lines of an 80-acre tract in the John Woods Survey, Abstract 1140. Derrick has already been erected and the test is on an 800-acre drilling block farmed out from Sun Oil Co.

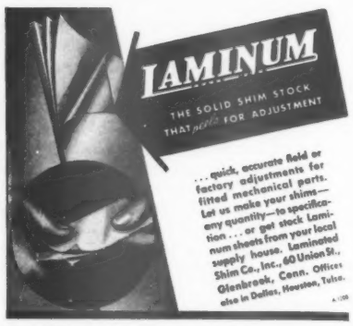
PITZER & WEST, Breckenridge, Tex., will drill a recently staked wildcat test in Young County, North Texas, for K. R. March, Southland Royalty Co., and Rowan & Nichols Oil Co. It will be No. 1 Nora Sloan, Block 111, W. Mains Survey. The operators' lease offsets to the east the Tex-Tor Oil Co.'s producing lease in the Knight field. It is contracted to 3,850 ft. and contractors are moving in materials.

ALLEN & MORRIS have apparently opened a new field for the South Texas district as a drill-stem test of Coronado Corp.'s No. 1 J. J. Welder, Calhoun County, recovered pipe-line oil and screen and liner is being set for final completion. Another rig is located in the La Rosa field, Refugio County, for the same company. In the Fagan field, Refugio County, contract was received for C. L. Norsworthy's No. 2 Fagan. Two other operations are reported in the Bruni field, Webb County, for American Liberty Oil Co., and at the East White Point field for Sinclair Prairie Oil Co.

JACK FRAZIER is moving a rotary to the Kountze area, Hardin County, Texas, for his No. 1 Nona Mills, a projected 8,500-ft. wildcat located in the S. B. Turner Survey. In the Goodrich area, San Jacinto County, the contractor has taken over Shell Oil Co., Inc.'s No. 1 Coline and is making a series of production tests of the Wilcox formation.

ROWAN Drilling Co. opened a new field for the Texas Gulf Coast with the completion of its joint test with Nichols Oil Co. located in the Liverpool area, Brazoria County. The well was drilled on the G. Hubbard lease southwest of the town of Alvin, and was drilled to a total depth of 10,002 ft. Casing was perforated at 8,538-54 ft., and at the close of the week the well was cleaning out at the rate of 4 bbl. of fluid per hour through ⅛-in. choke of which 20 per cent was oil and the balance wash water.

GLENN H. McCARTHY was attempting to open a new field and a new producing depth record for the Texas coast as preparations were made to test his No. 1 Munson, a wildcat located on the Bailey's Prairie area, Brazoria County. Drilled to a total depth of 11,860 ft., 5½-in. cas-


LAMINUM
THE SOLID SHIM STOCK THAT pays FOR ADJUSTMENT
. . . quick, accurate field or factory adjustments for fitted mechanical parts. Let us make your shims—any quantity—to specification . . . or get stock Laminum sheets from your local supply house. Laminated Shim Co., Inc., 60 Union St., Glenbrook, Conn. Offices also in Dallas, Houston, Tulsa.

Hoard Exploration Co.
Seismograph Surveys
618 Esperson Bldg.
Houston - - Texas

ALWAYS RENEW YOUR SUBSCRIPTION PROMPTLY

NEW BEDFORD PURE MANILA

"There is no better rope"

Standco
NO-SMOKE
STANDCO BRAKE LINING
Nothing novel—no bunk—but it gets the job done without scoring brake rims. See page 2304, Composite Catalog.
STANDCO BRAKE LINING CO
HOUSTON, TEXAS

Contractors

WE'LL TELL THE WORLD!

OSAGE IS GOOD METAL

The super d'amond substitute, universally sold and distributed.

OSAGE METAL CO., INC.
1413 S. Blackwelder Ave., Oklahoma City, Okla.

EXTRA SUPERIOR MANILA
OILFIELD ROPE
MARINE GRADE

MARINE GRADE ROPE

Especially designed for the conditions of the oil fields. Specify EXTRA SUPERIOR MANILA
Bull Rope Cat Line
Drilling Cable
Sold by leading distributors.

TUBBS CORDAGE CO.
200 Bush Street
SAN FRANCISCO, CALIF.

HERE'S WHERE YOU'LL FIND THE ANSWERS!

★ Put this book to work for you. When you have a problem, turn first to your Directory. You will be more apt to find what you are looking for there than anywhere else.

A single reference may save you hundreds of dollars. Use the Drilling Equipment Directory—regularly!

For Additional Copies Write
Petroleum Directory Publishing Co.
311 South Cheyenne, Tulsa, Oklahoma

ing was cemented at 10,850 ft., preparatory to testing several sands which were reported cored below 11,000 ft.

NICKLOS Drilling Co. received contract for a deep test to be drilled in the Horseshoe Bayou field, St. Mary Parish, Louisiana. Another rig is being moved to the Wasy Bayou field for the same company's No. 5 State. Two operations are reported in the Ville Platte field, Evangeline Parish, for Continental Oil Co., and another rotary is being used on a workover job in the Tepetate field for the same company. Continental Oil Co.'s No. 1 Bender, a wildcat in Montgomery County, was abandoned as a dry hole, while in the Erath field, Vermilion Parish, Strake Petroleum, Inc.'s No. 1 Caldwell was abandoned at a total depth of 11,608 ft.

P. C. PERRY and C. N. PEARSON, drilling contractors of Oklahoma City, Okla., and Centralia, Ill., have contracted to drill a Devonian lime wildcat test in Section 13-5s-3w, near the town of Pinckneyville, Perry County, Illinois, for G. H. Blankenship, Centralia operator and discoverer of the Cordes pool in Washington County, Illinois. The Devonian is expected to be found at about 2,980-3,000 ft.

E. J. SHAFFER, Hutchinson, Kans., was due to spud at Pawnee Royalty Co.'s No. 1 Zentner, C NE SE Section 8-1n-16e, about 1 mile northeast of the discovery well in the Falls City, Nebraska, pool. Rotary tools have been moved in. He also has contract to drill another well for the same company in NE SE Section 18-1n-16e, offsetting the second producer to be drilled in the Nebraska pool. Rotary rig is being erected.

JERRY OVEN Drilling Co., Enid Okla., will use a 122-ft. derrick in drilling a wildcat in NE NW Section 5-1n-15e, about ¾ mile northwest of Salem, Richardson County, Nebraska, for Hayden Campbell of St. Joseph, Mo., and L. H. Sparks, Sparks, Kans. Rotary tools are being moved in.

E. C. HELM, Paola, Kans., contractor and operator, was preparing to spud the Davis-Helm and others' No. 1 Green, S½ NW Section 9-11-19e, wildcat about 8 miles south of Oskaloosa, Jefferson County. Material was moved in several weeks ago.

PORTABLE Drilling Co., Tulsa, was scheduled to start work right away at a Wilcox sand wildcat test west of Stillwater, Payne County, Oklahoma, for W. H. Elson and George Conhaim of Tulsa.

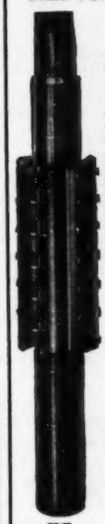
HARRY LEMON, drilling contractor of Yates Center, Kans., moved in large spudder and was due to start drilling at Dan McLaughlin's wildcat in C SW NE Section 22-9s-18e, about 5 miles northwest of Oskaloosa, Jefferson County, Kansas, and about 14 miles northwest of the McLouth oil and gas pool recently opened in the same county by McLaughlin and associates.

ARROW Drilling Co., Tulsa, at the close of last week was slowly drilling ahead at the No. 1 Spindler Investment Co., 6 miles northwest of Greenville in Bond County, Illinois. The test, being drilled for National Petroleum Co., recovered an 18-ft. core from 1,051-69 ft. and the first 14 ft. were reported to being carrying excellent saturation. The wildcat was originally slated to test the Devonian and is located in the heart of a large Shell Oil Co., Inc., block. Location is NW NW NW Section 10-6n-2w.

Cementing an Illinois well with bulk cement dispensed from special trucks

STUCK TUBING?

CALL FOR "H-E" REVERSING TOOL SERVICE



H-E REVERSING TOOL

The "H-E" REVERSING TOOL provides the safest, fastest and cheapest means of recovering stuck tubing. Pipe recovery ranges up to 5000 feet per trip. Tools rented on 24 hour basis. No damage to recovered pipe. REVERSING TOOLS are immediately available for running inside any size casing or liner beginning with 5" OD to remove any size tubing.

OIL WELL TOOLS · HE · MOUNTAIN ENGINEERS INC.

HOUSTON ENGINEERS, INC.
Houston, Texas
Phone: LD 620, P-3800, H-9894.
Export Sales:
W-K-M CO., Inc.
74 Trinity Place
New York City

Brauer
IMPROVED HYDRAULIC
WALL HOOK

● Designed to run on bottom of overshot, the Brauer Wall Hook permits passage of pipe or tool joint thru wall hook to the overshot above.

Pull on hinging knuckles is eliminated—greater safety is insured. This wall hook simply guides the overshot to fish and none of the pull on fish is transmitted thru the knuckle joint.

Operates with any type of overshot, and by slush pump pressure.

WRITE FOR FULL DETAILS—NOW!

BRAUER
MACHINE & SUPPLY CO.
Oklahoma City, Okla.
P. O. Drawer 1469
Phone 2-3014
Export Representative:
LLOYD G. ENSIGN,
30 Rockefeller Plaza, New York, N. Y.

Southwest Texas District

By
F. L. SINGLETON

Five New Pools, Deep Pays And Extensions in Prospect

CORPUS CHRISTI, Tex., July 1. — Several wildcats in the Southwest Texas district were holding the attention of operators as preliminary production tests showed evidence of oil and gas production.

Skelly Oil Co. was preparing to retest No. 1 State after the well flowed 141 bbl. of oil on a drill-stem test through perforated casing at 7,458-60 ft. A shakeout test at the separator showed 24 per cent sediment and water. The well was gaged through a ¼-in. choke on bottom and a ⅝-in. choke on top, and the working pressure varied from 1,000 to 1,100 lb. A cement squeeze job was made at 7,399-7,402 ft. to eliminate the water. The well is located 5 miles west of Riviera Beach, offshore from Kleberg County in Laguna Madre Bay. If successfully completed it will be the second field for the county, both being submerged fields located in Laguna Madre Bay.

Humble Oil & Refining Co. opened another submerged field, 2¼ miles northwest of Corpus Christi in Nueces Bay, as No. 1 Nueces Bay-State was flowing an unestimated amount of gas while cleaning out through perforated casing at 3,974-90 ft. The well was drilled to a total depth of 5,200 ft., and 7-in. casing was cemented at 4,053 ft. The sand section is said to correlate with one of the sands in the Corpus Christi pool, and the completion will no doubt result in increased activity in Nueces Bay, all of which is under lease to various major and independent companies.

In the Robstown townsite, Nueces County, and south of production of the Robstown pool, Richardson Petroleum Co.'s No. 1 Youth Center, the first well to be drilled in the townsite, is reported to be drilling below 5,000 ft., with no shows of oil or gas encountered. Details of the well have not been released by the company.

Terrell Field

Colton & Colton's No. 1 Etta Terrell, the discovery well of the Terrell field, Victoria County, is making a production test of a new sand. This well was originally completed in sand at 5,275-85 ft., but due to a decrease in production, the operators deepened the hole to a total depth of 5,610 ft., and 500 ft. of 5-in. liner was cemented at 5,610 ft. Broken sand and shale with oil and gas odors was logged at intervals from 5,301-5,481 ft. At the close of the week the well was being tested through perforations at 5,293½-95½ ft.

The Fagan field, Refugio County, was extended approximately 1 mile northwest with the completion of C. L. Norsworthy's No. 1 Fagan, completed for initial production of 75 bbl. of oil, plus 55 per cent salt water and 3,000,000 cu. ft. of gas per day. The well was gaged through a ¾-in. choke with tubing pressure 500 lb. and shut-in casing pressure 1,450 lb. Drilled to a total depth of 5,741 ft., production was obtained in a new horizon by perforating casing at 5,655-58½ ft.

Aransas County

Gas and distillate production was officially opened on the St. Charles prospect, Aransas County, as Continental Oil Co.'s No. 2 St. Charles Co. was flowing an unestimated amount of 55-gravity distillate and gas through a ¾-in. choke. Tubing pressure was 1,850 lb., and casing pressure 2,450 lb. This well was drilled as a relief well to No. 1 St. Charles Co., which blew out from a total depth of 9,335 ft., and after the well had been killed by pumping in water through perforated casing at 8,340-8,400 ft. the well was plugged back and completed as a distillate producer through perforated casing at 7,636-45 ft. The field is situated 7 miles northeast of Lamar in the R. D. Blassman Survey.

Location for an interesting wildcat was announced for Aransas County by Humble Oil & Refining Co., which is scheduled to move in material at an early date for No. 1 St. Charles Bay-State, a projected 10,000-ft. wildcat located about 10 miles north of Rockport, about 1 mile offshore from state tract No. 27.

Republic Natural Gas Co.'s No. 38 Rachal, which opened distillate production from a new sand on the southwest side of the East White Point field, San Patricio County, gaged 28.6 bbl. of 59.4-gravity oil in 22 hours flowing through a ¼-in. choke. Working pressure on the tubing was 850 lb., and casing pressure 2,240 lb. The well defined the 5,600-ft. pay and was completed through perforated casing at 5,730-75 ft.

Jim Wells County

Gas and distillate production was being opened from deeper sands in the Orange Grove-Wade City area, Jim Wells County. Hewitt & Dougherty's No. 1 O. B. Carver estate, 1½ miles southwest of the Wade City field, was flowing distillate, gas, and wash water while cleaning out through a 5/32-in. choke from perforated casing at 5,276-86 ft. Tubing pressure was 1,500 lb., and casing pressure 700 lb. The well cored the McNeill sand at 4,903-09 ft., and recovered 360 ft. of mud with an oily taste on an unsatisfactory 20-minute drill-stem test. The well is located on a farmout lease from Sinclair Prairie Oil Co., Block 9, I.&G.N. Survey.

In the Orange Grove area W. C. McBride, Inc.'s No. 1 Schrade, a northwest offset to H. H. Howell's No. 2 Schrade, is plugging back from a total depth of 5,694 ft. to sidetrack and recore the 5,100-ft. sand which was missed in the original hole. The well showed evidence of distillate production as the result of a 10-minute drill-stem test at 5,632-46 ft., which tested 660 lb. working pressure and 5 gal. of distillate-cut drilling mud.

At a hearing before the Texas Railroad Commission last week, operators interested in the newly opened Manila field, Jim Hogg County, requested that the field be developed on a pattern of 1 well to 10 acres with proration fixed on a straight acreage basis. Charles A. Daubert, geologist, who mapped the structure, described the area as being an elongated structure that may extend from 3 to 4 miles long and approximately three locations in width. The sand section was identified as the lower Cockfield. The first location to be announced for the field was made by Navarro Oil Co. for No. 1 W. P. Allen, a southwest offset to the discovery well.

George R. Boyle, who opened the Boyle field, Starr County, with the completion of No. 1 Carruth, 3 weeks ago, has sold his holdings to Fidelity Oil & Royalty Co., and W. L. Goldson for a cash-and-oil-payment consideration. Drilling was started on P. R. Rutherford's No. 1 Carruth and others, a northeast offset to the discovery well.

Stratton Field

On the east flank of the Stratton field, Nueces County, Southern Minerals Corp.'s No. 1 Bertram, which opened the first oil production in the field the previous week, flowed 92 bbl. of 42-gravity oil per day flowing through a 5/32-in. choke with tubing pressure 890 lb. and shut-in casing pressure. Drilling was started on the same company's No. 2 Bertram, a south offset, while Conroe Drilling Co. started drilling operation on No. 1 W. S. Sellers, a north offset.

Coronado Corp.'s No. 1 J. J. Welder, a wildcat located 6 miles southeast of Seadrift, Calhoun County, which has been in the process of completion for the past several weeks, assured the district of another new pool when a 15-minute drill-stem test through perforated casing at 5,654-56 ft. recovered 1,400 ft. of pipeline oil and working pressure built up to 550 lb. An electrical survey showed the sand section at 5,635-5,670 ft. The well was drilled to a total depth of 10,002 ft. and 5-in. casing was cemented at 9,696 ft. The well is located in Section 8, Eusebio Hidalgo Survey, on a block of approximately 17,000 acres.

SOUTHWEST TEXAS COMPLETIONS IN PROVEN FIELDS

Aransas-San Patricio County

McCampbell field: Bay Tex Oil Corp.'s No. 1 Hoffman-O'Laughlin, perforated casing 7,159-67 ft., 201 bbl., ⅞-in. choke. F. A. Gillespie's No. 1 Flores, perforated casing 6,800-10 ft., 160 bbl., ⅛-in. choke. Mar Production Co.'s No. 1 Mull, perforated casing 7,168-71 ft., 84 bbl., ⅛-in. choke. Puertoro Petroleum Co.'s No. 1-20 Losoya, perforated casing 7,106-17 ft., 88 bbl., ⅞-in. choke. Texas Atlas Petroleum Corp.'s No. 1-19 Conn-Brown, perforated casing 7,111-16 ft., 94 bbl., ⅞-in. choke.

Duval County

Piedra de Lumbre field: Government Wells Oil Co.'s No. 2 Lundell, perforated casing 1,365-70 ft., 101 bbl., ⅝-in. choke.

Tarancahuas field: Cox, Hamon, and others' No. 2 Hoffman-Rosemary, sand 2,071-81 ft., 130 bbl., ⅝-in. choke. Cox, Hamon, and others' No. 4 Hoffman, sand 2,012-35 ft., 144 bbl., ⅝-in. choke.

Hidalgo County

Samfordyce field: Royal Oil & Gas Co.'s No. 1-B Chapa, perforated casing 4,107-14 ft., 122 bbl., ⅛-in. choke.

Jim Hogg County

Colorado field: Humble Oil & Refining Co.'s No. 14 Atwood, 3,096 ft., 225 bbl., ¾-in. choke.

Jim Wells County

Ben Bolt field: Heyser & Heard's No. 2 Garcia, perforated casing 5,268-79 ft., 325 bbl., ¾-in. choke.

Orange Grove field: Magnolia Petroleum Co.'s No. 1 Schmidt, perforated casing 5,075-80 ft., 6½ bbl. per hour, 7/64-in. choke.

South Alfred field: Rowan & Hope's No. 4 Adams, perforated casing 4,681-89 ft., 124 bbl., ⅛-in. choke.

Wade City field: Rodney DeLange's No. 10 McNeil, perforated casing 4,291-4,318 ft., 299 bbl., ¾-in. choke. H. R. Smith and others' No. 1 Albrecht, perforated casing 4,807-12½ ft., 162 bbl., 5/32-in. choke.

Live Oak County

Oakville field: Moore Development Co.'s No. 1 Reagan, 2,151 ft., dry and abandoned.

White Creek field: Alvin Brauer's No. 3 Bonham, perforated casing 1,482-92 ft., 165 bbl., open tubing.

Nueces County

Stratton field: Gulf Plains Corp.'s No. 2 Dryden and Moseley, perforated casing 4,801-27 ft., 40 bbl., distillate ¾-in. choke. Southern Minerals Corp.'s No. 1 Bertram, perforated casing 6,390-98 ft., 100 bbl., 9/64-in. choke.

Refugio County

La Rosa field: Benson & Jones' No. 1 Vance, perforated casing 5,413-16 ft., 150 bbl., ⅛-in. choke. Coronado Corp.'s No. 4 Michna, perforated casing 5,826-40 ft., gas well.

San Patricio-Nueces Counties

East White Point field: Sinclair Prairie Oil Co.'s No. 3-977 State, perforated casing 5,619-28 ft., 107 bbl., ⅛-in. choke. W. R. R. Oil Co.'s No. 2-976 State, perforated casing 5,620-25 ft., 162 bbl., 7/64-in. choke.

Plymouth field: Humble Oil & Refining Co.'s No. 6 Bevly, 5,642 ft., 124 bbl., ½-in. choke.

Starr County

Rincon field: W. R. Davis' No. 2-A Davenport-State, perforated casing 4,070-91 ft., 211 bbl., ⅛-in. choke. W. R. Davis' No. 8-A Slick, perforated casing 4,200-48 ft., 249 bbl., ¾-in. choke. W. R. Davis' No. 9-A Slick, perforated casing 4,209-27 ft., 206 bbl., ¾-in. choke. W. R. Davis' No. 10-A Slick, perforated casing 4,230-50 ft., 199 bbl., ¾-in. choke. W. R. Davis' No. 27-B Slick, perforated casing 4,073-88 ft., 165 bbl., ¾-in. choke.

Sun field: Sun Oil Co.'s No. 9 Olivarez, perforated casing 4,667-70 ft., 249 bbl., ¾-in. choke. Sun Oil Co.'s No. 8 Speer, perforated casing 4,955-58 ft., 60 bbl. oil and 34 bbl. salt water, 9/64-in. choke.

Victoria County

Victoria field: Bill Hardin's No. 2 Buckert, sand 3,030-41 ft., 124 bbl., 12/64-in. choke.

Webb County

Glen field: Transwestern Oil Co.'s No. 2 Bruni, 2,176 ft., 960 bbl., ½-in. choke.

Louisiana Standard Accountants Transferred to Memphis, Tenn.

M. J. Rathbone, president of Standard Oil Co. of Louisiana, announced 10 or 12 members of the sales accounting department were being transferred from New Orleans to Memphis, Tenn., to make for efficiency in accounting work.

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S. T. R.	Depth	Status—
Union Oil, No. 3 Austin, Dominguez, Los Angeles	32- 3-13	7,460	O.S. drlg.
Union Oil, No. 14 Carson, Dominguez, Los Angeles	33- 3-13	8,095	redrlg. 7,498
Shell Oil, No. 105 Reyes, Dominguez, Los Angeles	34- 3-13	4,400	flow 175 b.d.
Seaport Oil, No. 1 Dasteel, Dominguez, L. A.	32- 3-13	8,209	P.B. 8,095
Wood-Mellon Oil, No. 1 West, Dominguez, L. A.	31- 3-13	6,460	cleaning out
Mission Oil, No. 1 Pierce, Rosecrans, Los Angeles	20- 3-13	8,557	O.S. drlg.
Crest Oil, No. 1 Wolfe, Rosecrans, Los Angeles	20- 3-13	4,998	sd. sh. drlg.
So. Cal. Pet., No. 2 Rowena, Rosecrans, Los Angeles	19- 3-13	7,405	O.S. drlg.
St. Anthony Oil, No. 2 Gordon, Rosecrans, L. A.	19- 3-13	7,670	O.S. drlg.
Chicago Oil, No. 1 Founders, Rosecrans, L. A.	20- 3-13	7,963	P.B. 7,335
Thorley Oil, No. 1 Athens, Rosecrans, Los Angeles	7- 3-13	7,831	O.S. drlg.
Inca Oil, No. 1 Union, Rosecrans, Los Angeles	18- 3-13	7,016	redrlg. 6,784
Tide Water A. O., No. 15 Porter, Aliso Canyon, L. A.	27- 3-16	5,408	O.S. drlg.
Tide Water A. O., No. 22 Porter, Aliso Canyon, L. A.	27- 3-16	4,890	O.S. drlg.
Brit. Amer. Oil, No. 1 Perkins, Newhall, Los Angeles	14- 3-16	6,196	cmtd. fish
Creighton-Hammon Synd., No. 1 C-H, Newhall, L. A.	17- 3-16	736	sd. sh. drlg.
Havenstrite, R. E., No. 1 Lincoln, Newhall, L. A.	16- 4-17	2,005	sd. sh. drlg.
Barnsdall Oil, No. 11 R.S.F., Newhall, Los Angeles	26- 4-17	5,861	cmtd. fish
Barnsdall Oil, No. 12 R.S.F., Newhall, Los Angeles	26- 4-17	4,398	sd. sh. drlg.
General Pet., No. 2 P.E., Wilmington, Los Angeles	35- 4-13	4,120	P.B. 3,790
Atlantic Oil, No. 16 Harbor, Wilmington, L. A.	33- 4-13	5,756	O.S. drlg.
Coast Line Oil, No. 1 Harbor, Wilmington, L. A.	32- 4-13	3,708	flow 258 b.d.
Union Pacific R. R., No. 142, Wilmington, L. A.	3- 5-13	4,017	P.B. 3,978
Union Pacific R. R., No. 143, Wilmington, L. A.	3- 5-13	3,984	completing
Union Pacific R. R., No. 146, Wilmington, L. A.	3- 5-13	4,043	completing
Union Pacific R. R., No. 25-E, Wilmington, L. A.	3- 5-13	4,037	flow 8,831 b.d.
Union Oil, No. 12 Sansinena, Whittier, Los Angeles	31- 2-10	5,157	redrlg. 2,198
Kern Oil, No. 24 Monterey, Montebello, Los Angeles	2- 2-12	7,655	will deepen
Kern Oil, No. 28 Monterey, Montebello, Los Angeles	2- 2-12	6,731	will deepen
Kern Oil, No. 31 Monterey, Montebello, Los Angeles	2- 2-12	7,865	P.B. 7,805
Kern Oil, No. 33 Monterey, Montebello, Los Angeles	2- 2-12	7,730	will deepen
Kern Oil, No. 42 Monterey, Montebello, L. A.	2- 2-12	7,625	sd. sh. drlg.
Chemical Oil, No. 1 Chemiculture, Montebello, L. A.	12- 2-12	7,474	idle
Mabee Co., No. 6 Mulholland, Montebello, L. A.	2- 2-12	7,802	flow 480 b.d.
Traders Oil, No. 1 Dudy, Montebello, Los Angeles	2- 2-12	6,340	cleaning out
Texas Co., No. 6 Mulholland, Montebello, L. A.	2- 2-12	7,630	will deepen
Stanley Oil, No. 1 Mont., Montebello, Los Angeles	2- 2-12	7,760	completing
Standard Oil, No. 8 Braun, Montebello, Los Angeles	3- 2-12	7,790	flow 900 b.d.
Herley-Kelly, No. 1 Burke, Montebello, Los Angeles	2- 2-12	6,460	fish packer
Dormax Oil, No. 2 Signal, Long Beach, Los Angeles	30- 4-12	5,342	redrlg. 4,937
Exeter Oil, No. 3 Olson, Long Beach, Los Angeles	19- 4-12	4,597	pump dry
Bryan-Pac. Oil, No. 1 Lempke, East Coyote, Orange	19- 3- 9	498	sd. sh. drlg.
Garliepp, F., No. 3 Yorba, East Coyote, Orange	19- 3- 9	3,350	completing
Hathaway Oil, No. 5 Coyote, E. Coyote, Orange	17- 3- 9	4,286	testing
Standard Oil, No. 42 Bolsa, Hunt. Beach, Orange	34- 5-11	2,890	O.S. drlg.
Surf Associates, No. 1 State, Hunt. Beach, Orange	10- 6-11	2,698	sd. sh. drlg.
Termo Co., No. 409-A State, Hunt. Beach, Orange	10- 6-11	4,719	redrlg. 4,171
Continental Oil, No. 3 Bixby, Seal Beach, Orange	11- 5-12	4,775	redrlg. 4,198
Security L. & W., No. 1 Security, La Habra, Orange	9- 3-10	2,792	sd. sh. drlg.
Morton, L. C., No. 1 Thomas, Anaheim, Orange	23- 4-10	2,597	sd. sh. drlg.

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S. T. R.	Depth	Status—
Cole, F. E., No. 1 Giacomini, Santa Maria, S. Barb.	24-10-35	4,806	idle
Union Oil, No. 22 Squires, Santa Maria, Santa Barb.	26- 9-34	3,785	pump 25 b.d.
Republic Pet., No. 2 Hollister, Gaviota, Santa Barb.	36- 5-33	1,114	sd. sh. drlg.
Oil Group, Inc., No. 1 Hyland, Summerland, S. Barb.	16- 4-26	2,940	cleaning out
Sulphur Springs Oil, No. 1 Janss, Conejo, Ventura	33- 2-19	3,898	hd. sh. drlg.
El Rancho Oil, No. 4 Elkins, Shiells Canyon, Vent.	9- 3-19	3,050	P.B. 3,040
Santa Clara Oil, No. 1 well, Shiells Canyon, Ventura	3- 3-19	3,245	pump 100 b.d.
Rio Hondo Oil, No. 1 Cosby, Hopper Canyon, Vent.	14- 4-19	1,540	sd. sh. drlg.
English, J. A., No. 3 Lankershim, Hopper Can., Vent.	13- 4-19	481	sd. sh. drlg.
G. E. Dev., No. 7 Hill, Hopper Canyon, Ventura	13- 4-19	976	sd. sh. drlg.
Coronet Oil, No. 1 Crown, Ojai, Ventura	17- 4-21	2,399	resume work
Merchants Pet., No. 8 Cochran, Sespe, Ventura	1- 4-20	2,392	sd. sh. drlg.
Continental Oil, No. 17 Grubb, San Miguelito, Vent.	24- 3-24	4,480	sd. sh. drlg.
C. C. M. Oil, No. 32-B Hobson, Rincon, Ventura	8- 3-24	3,170	sd. sh. drlg.
C. C. M. Oil, No. 34-B Hobson, Rincon, Ventura	16- 3-24	5,052	O.S. drlg.
C. C. M. Oil, No. 35-B Hobson, Rincon, Ventura	16- 3-24	5,375	P.B. 5,135
Tide Water A. O., No. 7 V.L.W., Vent. Ave., Vent.	23- 3-23	7,550	O.S. drlg.
Tide Water A. O., No. 25 Hartman, Vent. Ave., Vent.	22- 3-23	7,407	completing
Tide Water A. O., No. 27 Hartman, Vent. Ave., Vent.	22- 3-23	6,575	will deepen
Shell Oil, No. 117 Taylor, Ventura Ave., Ventura	21- 3-23	9,280	flow 1,560 b.d
Shell Oil, No. 119 Taylor, Ventura Ave., Ventura	29- 3-23	7,715	completing
Cal. Alliance Pet., No. 1 Schmidt, Vent. Ave., Vent.	21- 3-23	9,238	O.S. drlg.
British American Oil, No. 1 Barn., Vent. Ave., Vent.	22- 3-23	8,680	O.S. drlg.
British American Oil, No. 10 Hart., Vent. Ave., Vent.	21- 3-23	7,900	O.S. drlg.
Trico O. & G., No. 2 Newland, Delano gas field, Kern	21-24-23	2,462	flow gas
Hoyt, Otis, No. 1 Young, McKittrick, Kern	6-30-22	2,526	cleaning out
Belridge Oil, No. 3-35 fee, North Belridge, Kern	35-27-20	8,400	redrlg. 8,015
Continental Oil, No. 4 Result, North Belridge, Kern	36-27-20	8,150	O.S. drlg.
Texas Co., No. 1 Theta, Shale Hills, Kern	12-28-19	4,170	sd. sh. drlg.
General Pet., No. 1 Twisselman, Shale Hills, Kern	31-27-19	942	sd. sh. drlg.
Hast Oil, No. 9 Kern, Kern River, Kern	34-28-28	600	O.S. drlg.
Kern Hills Oil, No. 1 Brown, Kern River, Kern	27-28-28	443	pump 3 b.d.
Hope Oil, No. 4 Gray, Kern River, Kern	8-29-28	130	sd. sh. drlg.
Jergins Oil, No. 5-A, McCowan, Edison, Kern	13-30-29	1,594	rig to pump
Universal Consd. Oil, No. 3 Cattani, Arvin, Kern	15-31-29	6,168	P.B. 6,135
Western Gulf Oil, No. 45-B, KCL, Fruitvale, Kern	22-29-27	3,770	tested wet
Standard Oil, No. 5 Mushrush, Wasco, Kern	7-27-24	11,090	sd. sh. drlg.
Pacific Western Oil, No. 1 Meyer, Wasco, Kern	7-27-24	10,323	sd. sh. drlg.
General Pet., No. 5 Caldwell, Rio Bravo, Kern	35-28-25	8,962	sd. sh. drlg.
Union Oil, No. 63-34, KCL, Rio Bravo, Kern	34-28-25	11,472	O.S. drlg.
Union Oil, No. 65-34, KCL, Rio Bravo, Kern	34-28-25	5,990	sd. sh. drlg.
Superior Oil, No. 1 Riggs, Rio Bravo, Kern	21-28-25	8,496	sd. sh. drlg.
Superior Oil, No. 1 Moore, Greeley, Kern	12-29-25	7,990	sd. sh. drlg.
Superior Oil, No. 1 Brandt, Greeley, Kern	28-29-26	10,870	sd. sh. drlg.
Standard Oil, No. 11-13, KCL, Greeley, Kern	20-29-26	7,780	will deepen
General Pet., No. 1 Wallace, Greeley, Kern	1-29-25	8,550	sd. sh. drlg.
Shell Oil, No. 8-19-A, KCL, Ten Section, Kern	19-30-26	8,190	O.S. drlg.
Shell Oil, No. 87-29-A, KCL, Ten Section, Kern	31-30-26	8,220	flow 1,978 b.d.
Ohio Oil, No. 19-E, KCL, Canal, Kern	13-30-25	8,307	P.B. 8,248
Richfield Oil, No. 18-28-A, KCL, Tupman, Kern	28-30-25	8,595	O.S. drlg.
Richfield Oil, No. 36-28-A, KCL, Tupman, Kern	28-30-25	7,783	sd. sh. drlg.
Richfield Oil, No. 58-28-A, KCL, Tupman, Kern	28-30-25	9,120	O.S. drlg.
Richfield Oil, No. 78-30-A, KCL, Tupman, Kern	30-30-25	8,830	O.S. drlg.
Richfield Oil, No. 72-32-A, KCL, Tupman, Kern	32-30-25	9,020	completing
Richfield Oil, No. 54-4-B, KCL, Cole's Levee, Kern	4-31-25	9,000	O.S. drlg.
Standard Oil, No. 20-6, KCL, Cole's Levee, Kern	9-31-25	9,003	O.S. drlg.
Texas Co., No. 40 Midway, Midway-Sunset, Kern	32-32-24	3,210	bailing
Exeter Oil, No. 8 Murphy, Midway-Sunset, Kern	28-32-24	3,137	swabbing
Union Oil, No. 9 Lakeview, Midway-Sunset, Kern	25-12-24	2,738	fish liner
Honolulu Oil, No. 25-P, Buena Vista, Midw-S., Kern	10-32-24	4,390	br. sh. drlg.
Republic Pet., No. 1 C.H., Midway-Sunset, Kern	18-32-23	1,888	pump 150 b.d.
West. Gulf-Texas, No. 743-3-A, KCL, Paloma, Kern	3-32-26	10,706	testing
Richfield Oil, No. 1 Ranch, Tejon Ranch, Kern	2-10-19	6,688	fish D.P.
Jergins Trust, No. 1 Cheney, Panoche Creek, Fresno	29-14-13	9,225	P.B. 7,350
Texas Co., No. 1 S.P., Turk anticline, Fresno	23-17-15	10,116	P.B. 9,413
Shell Oil, No. 45-2, East Coalinga, Fresno	2-20-15	3,745	bailing
Standard Oil, No. 77-19-B fee, N.E. Coalinga, Fresno	19-19-16	7,770	sd. sh. drlg.
Standard Oil, No. 82-19-B fee, N.E. Coalinga, Fresno	19-19-16	8,245	flow 1,125 b.d.
Pure Oil, No. 44-30-B Schwinn, N.E. Coalinga, Fresno	30-19-16	8,230	O.S. drlg.
Wilshire Oil, No. 62-30-B, N.E. Coalinga, Fresno	30-19-16	8,260	tested wet
Bandini Pet., No. 71-30-B, N.E. Coalinga, Fresno	30-19-16	8,256	O.S. drlg.
Lytle, R. S., agent, No. 33-7-F, S.E. Coalinga, Fresno	7-20-16	6,770	br. sh. drlg.
Lytle, R. S., agent, No. 68-18-F, S.E. Coalinga, Fresno	18-20-16	8,051	C.P. 7,509
Lytle, R. S., agent, No. 77-18-F, S.E. Coalinga, Fresno	18-20-16	7,900	completing
Lytle, R. S., agent, No. 82-18-F, S.E. Coalinga, Fresno	18-20-16	7,757	O.S. drlg.
Univ. Consd. Oil, No. 72-24-C, S.E. Coalinga, Fresno	24-20-15	7,844	O.S. drlg.
Standard Oil, No. 88-13-C fee, S.E. Coalinga, Fresno	13-20-15	7,820	flow 4,001 b.d
Standard Oil, No. 22-17-F fee, S.E. Coalinga, Fresno	17-20-16	7,930	O.S. drlg.
Standard Oil, No. 1-19-F fee, S.E. Coalinga, Fresno	19-20-16	7,725	O.S. drlg.
Superior Oil, No. 5-B Cagle, S.E. Coalinga, Fresno	6-20-16	7,294	sd. sh. drlg.
Union Oil, No. 9 King, Kettleman N. Dome, Fresno	29-21-17	10,515	O.S. drlg.
Standard Oil, No. 334-29-J, Kettleman N. D., Fresno	29-21-17	9,970	cmtd. 9,948
Tide Water, No. 1 West Slope, Pyramid Hills, Kings	20-24-18	950	cleaning out
Tide Water A. O., No. 1 fee, Pyramid Hills, Kings	18-24-18	1,000	dry; abd.
Tide Water A. O., No. 35-22 Daniel, Trico, Tulare	22-24-23	9,000	sd. sh. drlg.
Cal. Fuel Oil, No. 3 Alberta, Huasna, S. L. Obispo	5-32-13	3,030	sd. sh. drlg.
Superior Oil, No. 1 Tar Springs, Huasna, S. L. Obispo	24-32-14	2,798	sd. sh. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
B. ck., bottom choke.
Br. sh., brown shale.
B.S., basic sediment.
C.&P., cellar and pits.
Cd. or Crd., cored.
C.D., correct depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg., or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.S.T., drill-stem test.
D.P., drill pipe.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe-line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Recvd., recovered.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtrk. or St., sidetracked.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel-line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas, and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T. ck., top choke.
T.P., tubing pressure.
Tr., tract.
Tstd., tested.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.O.O., waiting on orders.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

OKLAHOMA

Week Ended June 29

NORTHERN OKLAHOMA

Beckham County

Fred Coogan's No. 1 Kinchen, SE SE SE Sec. 4-9-25w. Dolo. 3,260 ft.; T.D. 3,714 ft.; P.B. 3,539 ft.; acd. and S.D.

Caddo County

Sinclair Prairie Oil Co.'s No. 1 Groman, SW NW NW Sec. 1-16-13w, Wlx. 9,179 ft.; sd. 10,074 ft.; cd. 10,871-75 ft.; N. S.; Arb. 10,922 ft.; T.D. 11,026 ft.; P.B. 9,370 ft.; C.O. at 6,600 ft.; W. 100 ft.; sd. 10,074 ft.; Arb. 10,922 ft.; T.D. 11,026 ft.; P.B. 2,450 ft.; acd.; bld. dry and S.D.O.

Creek County

D. E. Demsey's No. 1 Marrs, NE NW SE Sec. 29-18-8. Prue 2,445-52 ft., T.D.; B. 1 B.O.P.H.

Indo Oil Co.'s No. 1 Slick, NW NW NW Sec. 1-16-9. S.O. 1,145-78 ft.; T.D. in Dtchr. 2,922 ft.

Garfield County

Champlin Ref. Co.'s No. 1 Kunkel, C E½ SE NW Sec. 23-23-6w. Lytn. 5,048 ft. Miss. 6,070 ft.; T.D. 6,930 ft.; P.B. 6,190 ft.; to test.

Garvin County

Roy Starr's No. 1 Shi, NW NE NE Sec. 8-4-3. Drlg. 2,040 ft.

Troup et al's No. 1 Bowie, NW NE SE Sec. 3-4-3. Hntn. 2,692 ft.; Vla. 2,792 ft.; Trtn. 2,875 ft.; S.D. 3,296 ft.

Hughes County

Loual Drlg. Co.'s No. 1 Jackson, C SW NE Sec. 24-9-9. Drlg. 2,898 ft.

Morgan-Gulf Prod. Co.'s No. 1 Diamond, C E½ NW SE Sec. 33-9-9. Msnr. 3,910 ft.; Hntn. 3,912 ft.; 2nd Wlx. 4,255 ft.; T.D. 4,261 ft.; P.B. 3,550 ft.; comp. for 5,726,000 cu. ft. gas.

Kay County

Alma Oil Co.'s No. 1 Gosting, SE cor. Sec. 14-27-2. T.D. 3,704 ft.; D.&A.

Malarnee Oil Co.'s No. 1 Harris, C SW NE Sec. 14-25-1. Miss. 4,050 ft.: chat with S.O. 4,063-4,105 ft.; wtr. 4,433-40 ft., T.D.; P.B. 4,050 ft.

Kingfisher County

Phillips Pet. Co.'s No. 1 Grape, C NW SE Sec. 30-18-5w. Layton 5,600 ft.; O.S.W. 4,146 ft.; Miss. 6,670 ft.; drlg. 7,135 ft. in Miss.

Kiowa County

Gene Burke's No. 1 Morgansen, NW NW SW Sec. 6-2-16w. T.D. 585 ft.; S.D.

Wm. Curtis' No. 1-A Hobbs, SE SE NW Sec. 35-6-17w. T.D. 568 ft.

Hurst & Groth's No. 1 Groth, SW cor. Sec. 3-4-16w. T.D. 437 ft., gr. wsh.; S.D.

C. H. Marshall's No. 1 Pottchin, NE NW NW Sec. 28-7-18w. T.D. 2,342 ft.; abd.

Southwestern Okla. O. & G.'s No. 2 Foltz, NW SE SE Sec. 10-6-18w. Drlg. 1,565 ft.

Tide Prod.'s No. 1 Fowler, SE SE NW Sec. 10-7-18w. Drlg. 120 ft.

Logan County

Eason Oil Co.'s No. 1 Wells, NE NW NE Sec. 15-16-2w. Lytn. 4,274 ft.; Ckbd. 4,565 ft.; Miss. 5,409 ft.; Msnr. 5,515 ft.; S.S.O.&G.; Hntn. 5,527 ft.; S.S.O.; T.D. 5,837 ft.

Noble County

Helmerich & Payne's No. 1 Fireshaker, SE SE NE Sec. 11-24-3. Simp. 3,960 ft.; Wlx. 3,965 ft.; sd. and S.S.O. 3,983 ft.; T.D. 4,077 ft.; S.D. reprs.

Okfuskee County

Texas Co.'s No. 1 Cowan, SW cor. Sec. 5-11-10. Drlg. 2,725 ft.

Oklahoma County

Continental Oil Co.'s No. 1 Renund, SE SE NE Sec. 24-14-4w. Drlg. 2,765 ft.

Osage County

Mid-Continent Pet. Corp.'s No. 1 Osage, NW NW NE Sec. 18-24-5. Drlg. 2,350 ft.

Norbla et al's No. 1 Osage, NE NE NW Sec. 25-22-9. Drlg. 1,170 ft.

Payne County

H. & H. Oil Co.'s No. 1 Linsenmeyer, SE SE SW Sec. 3-18-4. S.D.W. 1,605 ft.

Summit Drlg. Co.'s No. 1 Arnold, NW NE NW Sec. 8-19-2. Drlg. 3,775 ft.

Pontotoc County

Kerlyn Oil Co.'s No. 1 Chism, NW SE SE Sec. 24-5-6. S.O. 1,940-70 ft.; T.D. 2,173 ft.; P.B. 1,975 ft.; drld. plug; 13,000,000 cu. ft. gas and spray oil; S.I.

Morgan et al's No. 1 Brown, SW SW SE Sec. 30-3-5. Vla. 523 ft.; S.S.O. 1,125 ft.; T.D. 1,135 ft.

Pottawatomie County

J. F. Smith's No. 1-A McKnown, SE SW NW Sec. 25-8-4. Hntn. 4,045 ft.; T.D. 4,143 ft.; S. 40 B.O. in 12 hrs.

Thompson Bros.' No. 1 L. Truesdale, SE SE NW Sec. 31-8-5, Earls. 3,486 ft., Msnr. 4,119 ft.; Hntn. 4,121 ft.; Vla. 4,224 ft.; first Wlx. 4,349 ft.; S.S.O.; 2nd Wlx. 4,432 ft.; S.I.

Seminole County

C. E. Davis' No. 1 Key, NE NE SE Sec. 4-11-8. Earls. 2,755 ft.; Crom. 3,612 ft.; T.D. 3,760 ft.

Davis et al's No. 1 Thlocco, NW SW NW Sec. 30-7-7. Drlg. 1,152 ft.

Washita County

Continental Oil Co.'s No. 1 School ld., C NE Sec. 16-8-16w. Drlg. gr. wsh. 7,373 ft.

SOUTHERN OKLAHOMA

Atoka County

Kirksey's No. 1 Baskett, SW SE SE Sec 7-3s-10e. Sdy. L. 470-80 ft.; S.O.; T.D. 730 ft.

Scrivner et al's No. 1 Plettner, NW NW NE Sec. 36-3s-13. S.D. 1,500 ft.

Thompson Bros.' No. 1 Richardson, NE SE SW Sec. 10-3s-9. Hntn. 1,230 ft.; S.O. 1,259 ft.; drlg. 1,407 ft.

Cotton County

Scott's No. 1 Masonic Home, NW NW SW Sec. 13-4s-13w. T.D. 2,505 ft., sdy. L.; abd.

Marshall County

May Oil Corp.'s No. 1 Sacrea, SW NE SW Sec. 17-5s-5. Drlg. 1,266 ft.

Johnson et al's No. 1 Godfrey, SW SE NE Sec. 14-6s-6e. Vla. 2,627 ft.; S.S.O.; T.D. 5,890 ft.; prep. to abd.

Tillman County

Cline et al's No. 1 Staley, SE SE NW Sec. 10-2s-19w. Drlg. 3,430 ft.

Gulf Oil Corp.'s No. 1 Owen, NE NE NE Sec. 27-4s-15w. T.D. 4,232 ft.; abd.

Kadane Bros.' No. 1 Andrews, NW cor. Sec. 35-2s-19w. T.D. 4,800 ft.; D.P. stk. SE SE Sec. 15-21-38w. Drlg. 4,000 ft.

McPherson County

Bay Pet. Co.'s No. 1 Coons, C W½ SW SW Sec. 13-19-1w. Lans. 2,312 ft.; Miss. 2,906 ft.; drlg. 3,270 ft.

Broadwater, Inc.'s No. 1 Heaton, C E½ SE SE Sec. 28-17-1w. Tpka. 1,558 ft.; U.R. 2,080 ft.

Progressive Oil's No. 1 Chavez, CWL SW NW Sec. 26-20-2w. Lans. 2,335 ft.; drlg. 2,550 ft.

Westgate-Greenland's No. 1 Lassen, CSL NW SE Sec. 24-17-2w. Drlg. 2,660 ft.

Marion County

H. H. Royer's No. 1 Kroch, NE NE NW Sec. 28-18-4. O.T.D. 2,452 ft.; T.D. 2,510 ft.; P.B. 2,447 ft.; D.&A.

Phillips County

Cities Service's No. 1 Ray, NE NW SE Sec. 32-5-20w. Drlg. 2,160 ft.

Rice County

Republic Nat. Gas' No. 1 Bean, C E½ NE SW Sec. 23-19-6w. Drlg. 601 ft.

Rooks County

Mitchell Drlg. Co.'s No. 1 Vererka, CSL SE SE Sec. 21-8-19w. Tpka. 2,783 ft: Lans. 3,174 ft.; S.S.O. 3,333 ft.; drlg. 3,370 ft.

Wakefield et al's No. 1 Diehle, C N½ NW NW Sec. 4-9-17w. Tpka. 2,885 ft.; Lans. 3,140 ft.; drlg. 3,330 ft.

Russell County

Gussman's No. 1 Mudd, CWL NW NE Sec. 16-15-15w. Drlg. 2,495 ft.

Haynes et al's No. 1 Driscoll, CNL SE SW Sec. 30-15-11w. Tpka. 2,685 ft.; Lans. 3,020 ft.; 500 ft. O.I.H., 3,316 ft.

Jones Bros.' No. 1 Mahoney, CSL SW SW Sec. 8-14-12w. Tpka. 2,614 ft.; Lans. 2,943 ft.; est. 5 B.O.P.H. at 2,977 ft.

Pryor & Lockhart's No. 1 Davidson, C E½ NE NW Sec. 12-15-11w. C.O. 525 ft.

Stafford County

Stanolind's No. 1 Ahnert, C W½ SE NE Sec. 10-22-12w. W.O.C. 240 ft.

Stanolind's No. 1 Roscoe, C N½ NE SE Sec. 15-24-12w. W.O.C. 250 ft.

MISSOURI

DeKalb County

American O. & G. Co.'s No. 1 Thompson, SW SW Sec. 30-58n-31w. Drlg. 620 ft.

Holt County

Brin & Nathan's No. 1 Decker, C NW NW Sec. 1-61-38w. Miss. 1,865 ft.; U.R. 1,869 ft.

NEBRASKA

Richardson County

Uhri Oil Co.'s No. 1 Ogle, NE NW SE Sec. 9-1n-14e. Hunton 2,255 ft.; S.O.; T.D. 2,259 ft.

ARKANSAS

Columbia County

Barnsdall Oil Co.'s No. 1 El Dorado & Wesson R. R. Co., C NW SW Sec. 5-19-18. Set 10¾-in. csg. 2,525 ft.; drlg. 7,675 ft.

Mid-Continent Pet. Corp.'s No. 1 J. Keith, C SW NW Sec. 16-18-22. Set 16-in. csg. 397 ft.; set 9⅝-in. csg. 4,144 ft., drlg. rd. sdy. sh. 7,730 ft.

Placid Oil Co.'s No. 1-B J. W. Booth, C SE SE Sec. 19-17-19. Set 13⅜-in. csg 135 ft.; drlg. rd. sdy. sh. 6,545 ft.

Southwood Oil Co.'s No. 2 H. C. Couch, C S½ SW SW and S½ SE SW Sec. 28-17-20. Cd. S.W. L. 7,643-7,701 ft., T.D.; arng. run short string of 4-in. csg. 7,701 ft.

Standard Oil Co. of La.'s No. 3-B Longino, 660 ft. W, 560 ft. S, NE cor. SW SE Sec. 18-17-19. Set 9⅝-in. csg. 3,957 ft. (cor.); drlg. sd.&sh. 5,360 ft.

Standard Oil Co. of La.'s No. 1 Merritt et al unit, Sec. 16-17-20. Set 13⅜-in. csg. 224 ft.; drlg. sd.&sh. 7,526 ft.

Tide Water Asso. Oil Co.'s No. 1 E. M. Hutcheson, 330 ft. S, 1,320 ft. NE cor. SE Sec. 16-18-19. Set 13⅜-in. csg. 132 ft.; W.O.C.

Faulkner County

Cato Oil Co., Inc.'s No. 1 R. R. Harrell, 330 ft. SE cor. SE SW Sec. 35-4n-12w. T.D. 2,438 ft.; U.R. csg. and set 7-in. csg. 2,370 ft.; drlg. L.&sh. 2,950 ft.

Lafayette County

East Texas Ref. Co.'s No. 2 Bodcaw Lbr. Co., 530 ft. S, 660 ft. E, NW cor. NE NE Sec. 19-18-23. Set 5½-in. csg. 3,365 ft.; T.D. 3,451 ft.; W.O.C.

Lonoke County

Lunnon Howell & Ford's No. 1 City of Cabot, C NE Lot 1, Blk. 6, Sec. 18-4n-9w. Set 4¼-in. csg. 878 ft.; fsg. 1,265 ft.

J. F. Russell's No. 1 J. T. Gunter, 440 ft. N, 577 ft. W. SE cor. Sec. 17-5n-10w. Drld. sd. S.S.O. 2,231-45 ft.; drlg. sh.&L. 2,402 ft.

Miller County

Standard Oil Co. of La.'s No. 2 W. P. Sturgis, 330 ft. SE cor. NE SW Sec. 1-17s-27w. Set 9⅝-in. csg. 194 ft.; drlg. ch. 2,188 ft.

Ouachita County

Sam Richardson & Co., Inc.'s No. 2 B. Goodwin, NE cor. SW SW Sec. 32-15-15. R.U.

Saline County

Tedford Drlg. Co. et al's No. 1 Cunningham, C SW NE Sec. 31-3s-15w. Set 12½-in. 75 ft.; temp. S.D. 330 ft.

Union County

J. H. Coker and J. P. Grieves et al's No. 1 C. L. Smith, 330 ft. SW cor. NE NW Sec. 32-17-14. Set 10¾-in. csg. 225 ft.; cd. 3,491-3,501 ft.; rec. 1 ft. hd. sh., 2 ft. soft sh., 1 ft. volc. ash, 3½ ft. sdy. ash, strks. sh., good stain and odor; D.S.T. 3,453-3,501 ft.; seat failed; S.D. changing drlg. lines.

Fohs Oil Co.'s No. 1-A Grace, 660 ft. N, 330 ft. W, SE cor. SW SE Sec. 31-17-14. Sqzd. perf. 2,732-38 ft. and reperf. 2,732-37 ft. and tstd. 90 ft. oil and 2,200 ft. brksh. wtr.; sqzd.; drld. out to 3,700 ft.; perf. 3,687-97 ft.; jetting with gas; est. 5 B.O.P.H.; W.O.S.R.

Fohs Oil Co.'s No. 2 C. T. Grace, 330 ft. NW cor. SW SE Sec. 31-17-14. M.I. rig

Marine Oil Co.'s No. 6-B Thompson, 350 ft. N, 200 ft. W, SE cor. SE SW Sec. 3-18-13. T. Urbana sd. 3,520 ft. D.S.T. 3,057-77 ft.; tstd. drlg. fluid and S.W.; set 7-in. csg. 3,521 ft.; T.D. 3,553 ft.; W.O.S.R.

Marine Oil Co.'s No. 11-A Thompson, 430 ft. N, 330 ft. E, SW cor. SW SE Sec. 3-18-13. Drlg. 2,765 ft.

Phillips Pet. Co.'s No. 1 C. H. Murphy, 165 ft. S, 10 ft. E, NW cor. S½ Lot 2 NW Sec. 19-18-17. T. Jones sd. 7,590 ft.; set 5-in. csg. 7,681 ft.; T.D. 7,690 ft.; arng. perf.

Standard Oil Co. of La.'s No. 1 D. A. Zimmerman, 660 ft. SE cor. SE SE Sec. 29-18s-16w. Set 13⅜-in. csg. 227 ft.; T. oil sd. 6,783 ft.; cd. to 6,799 ft. and made D.S.T. 6,764-88 ft.; used ¼-in. cks. T.&B.; rec. in 15 min. 420 ft. mud and oil and 1,260 ft. S.W.; drlg. ahd. 7,031 ft.

KANSAS

Week Ended June 29 (Descriptions are East unless marked otherwise)

Barber County

Finston's No. 1 Pichner, CEL NE SW Sec. 24-16-11w. Lans. 3,067 ft.; Arb. 3,376 ft.; S.S.O. 3,392 ft.

Sinclair-Prairie Oil Co.'s No. 1 Binning, C S½ SE SW Sec. 26-32-13w. Tpka. 3,045 ft.; Lans. 3,930 ft.; Miss. 4,430 ft.; Vla. 4,769 ft.; Simp. 4,857 ft.; Arb. 4,975 ft.; cd. to 5,004 ft.; N.S.; cg. ahd.

Barton County

Robertson's No. 1 Miller, CWL SW NE Sec. 4-16-14w. Drlg. 1,090 ft.

Butler County

J. H. Wagoner's No. 1-A Ramsey, SW NW SE Sec. 8-24-5. Miss. 2,475 ft.; S. S.O. 2,471 ft.; T.D. 2,501 ft.; P.B. 2,424 ft.; P. 5 B.O.P.D.; abd.

Cowley County

McKnab's No. 1 Lemert, CWL NW SE Sec. 11-34-4. Miss. 3,078 ft.; 3,000,000 cu. ft. gas 3,089 ft.; drlg. 3,184 ft.

Markey et al's No. 1-A Hunt, SW SW NE Sec. 16-34-5. Drlg. 3,201 ft.

I. W. Murfin's No. 1 Jarvis, N½ SW NE Sec. 19-31-5. Miss. 2,930 ft.; drlg. 3,070 ft.

Stewart et al's No. 1-A Ehmke, C W½ NW NW Sec. 14-32-3. Drlg. 2,640 ft.

Trees Oil's No. 1 Orr, NW NE NW Sec. 17-30-4. Drlg. 1,665 ft.

Douglas County

Forrester et al's No. 1 Altenbernd, CSL NW Sec. 35-12-20. Drlg. 612 ft.

Kerlyn Oil Co.'s No. 1 Whedon, C NE NE Sec. 20-13-20. Drlg. 562 ft.

Ellis County

Gulf Oil Corp.'s No. 1 Arnhold, C N½ NE SE Sec. 36-13-17w. R.R.

Ellsworth County

Emerich et al's No. 1 Hagy, C W½ SW NE Sec. 20-16-10w. Lans. 3,020 ft.; Arb. 3,326 ft.; T.D. 3,349 ft.; S.O.

Palmer Oil Corp.'s No. 1 Stratman, C E½ NE SW Sec. 15-17-10w. Tpka. 2,640 ft.; Lans. 2,981 ft.; drlg. 3,084 ft.

Greenwood County

Ashlock et al's No. 2-A Lindemood, NE NW SW Sec. 7-25-13. Pay 1,613-20 ft.. T.D.; est. P. 10 B.O. and 20 B.W.P.D.

Kearny County

Stanolind O. & G. Co.'s No. 1 Judd, C

LOUISIANA

NORTH LOUISIANA

Bienville Parish

Ark.-La. Gas Co.'s No. 1-C Thomas, 710 ft N, 1,273 ft. E, SW cor. NW Sec. 24-16-10. Set 13⅜-in. csg. 165 ft.; drlg. 1,553 ft.

Union Prod. Co.'s No. 1 Havis Unit, 150 ft. N and W of SE line NW NW Sec 11-16-10. Set 13⅜-in. csg. 370 ft.; W. O.C.

Bossier Parish

R. L. Reese et al's No. 1 Bellevue Ld. Co., 170 ft. E, 365 ft. N, C Sec. 27-20-11. Set 10-in. csg. 100 ft.; reported S. O. in Tokio 2,672-88 ft.

Triangle Drlg. Co.'s No. 6-C Skannal, 1,002 ft. W, 332 ft. S, NE cor. Sec. 13-17-12. Set 5½-in. csg. 3,004 ft.; T.D. 3,010 ft. tstg.

Caddo Parish

Chastain & Meier's No. 1 Crystal fee, Sec. 24-21-16. Set 8-in. csg. 1,001 ft.; W.O.C.; T.D. 1,003 ft.

J. M. Conner's No. 1-A Williams, 334 ft. N, 986 ft. W, SE cor. NE Sec. 3-15-15. Set 10¾-in. csg. 400 ft.; prep. core 3,165 ft.

R. B. Creager's No. 1-A Muslow, Sec. 31-21-15. R.U.

Davis & Hart's No. 1-A Muslow, Sec. 9-20-15. Set 10-in. csg. 60 ft.; drlg. sh. 489 ft.

L. Halbfass' No. 1-B Knight Oil & Ld. Co. Sec. 1-21-16. Set 10-in. csg. 60 ft.; cg. 2,297 ft.

F. G. Holcomb's No. 1 Sims, Sec. 3-20-16. Set 6⅝-in. csg. 1,004 ft.; W.O.C.

R. B. Hollandsworth's No. 1 Sentell, 1,650 ft. N, 660 ft. E, SW cor. Sec. 35-20-14. R.U.

Juan & McFatrick's No. 2-A Hobbs, Sec. 28-21-15. Set 7-in. csg. 1,433 ft.; W.O.C.

R. L. Milam's No. 2 Bickham, Sec. 28-21-15. Set 10-in. csg. 40 ft.; cg. 1,345 ft.

M. L. Miller's No. 1 Muslow, Sec. 31-21-15. Set 7-in. csg. 1,406 ft.; T.D. 1,568 ft.; tstg.

G. H. Neighbors' No. 1 Richardson, Sec. 36-21-16. Set 6⅝-in. csg. 1,335 ft.; T.D. 1,575 ft.; acd.

Stanolind O. & G. Co.'s No. 133 Dillon, Sec. 13-21-15. Set 5½-in. csg. 1,492 ft.; acd.; T.D. 1,650 ft.; W.O.S.R.

Stanolind O. & G. Co.'s No. 2 Noel est., Sec. 25-21-15. 5½-in. csg. 1,423 ft.; T. D. 1,556 ft.; acd.
J. G. Strahan's No. 4-A Stiles, Sec. 29-21-16. Set 5½-in. csg. 2,202 ft.; T.D. 2,404 ft.; W.O.S.R.
L. L. Sugar's No. 1-A Muslow, Sec. 31-21-15. R.U.
Texas Co.'s No. 23-B Noel, Sec. 14-21-15. Drlg. 49 ft.
Tiger O .& G. Co.'s No. 1-B Crystal fee, Sec. 24-21-16. Set 8-in. csg. 988 ft.; T. D. 995 ft.; W.O.S.R.
Sloan Wells' No. 2 Stiles, Sec. 32-21-16. Set 10-in. csg. 40 ft.; tstd. S.O.&S.W. 2,404 ft.; P.B. 2,235 ft.; W.O.C.
W. & W. Oil Co.'s No. 1 Guy, Sec. 12-20-16. Set 5½-in. csg. 1,390 ft.; T.D. 1,523 ft.; acd.
G. A. White's No. 1 Muslow, Sec. 31-21-15. Set 10-in. csg. 40 ft.; 7-in. csg. 1,405 ft.; W.O.C.

Catahoula Parish

Continental Oil Co.'s No. 1 Tensas, C N½ SW SW Sec. 12-9-7e. Set 10¾-in. csg 1,120 ft.; T.D. 9,010 ft.; ran elec. log; S.D.; W.O.; hd. L.&sh.

Claiborne Parish

Ohio Oil Co.'s No. 15 G. W. Taylor Acct. 1, 100 ft. S and W, C SE Sec. 15-23-8. Set 13⅜-in. csg. 980 ft.; T. James L. 4,789 ft.; cd. L., S.W. 4,789-4,811 ft.; T. Pett. L. 5,206 ft.; D.S.T. 5,208-31 ft.; ⅝-in. cks. T.&B.; tool open 28 min.; no W.P.; rec. 3½ jts. mud cut with oil; set 9⅝-in. csg. 5,970 ft.; drlg. rd. sh. 6,793 ft.

Franklin Parish

J. B. White et al's No. 1 Dailey, 1,170 ft. N, 2,490 ft. W, SE cor. Sec. 1-11-6e. S.D. 2,403 ft.

Grant Parish

C. M. Bowers' No. 1 Goodpine Oil Co., C SE SE Sec. 13-9n-1w. T. Wlx. 1,622 ft.; S.W. sd. 1,626 ft.; S.D.; W.O.
Peterson Pet. Corp.'s No. 1 Swope, 182 ft. N, 85 ft. W, SE cor. NW SE Sec. 18-9-1e. T. Wlx. 1,604 ft.; broken oil sd. 1,604-09 ft.; T.D. 1,609 ft.; rng. csg.

La Salle Parish

Ark. Fuel Oil Co.'s No. 1 Cruse, 610 ft. N, 660 ft. E, SW cor. Sec. 19-10-3e. Set 10¾-in. csg. 202 ft.; drlg. 218 ft.
Ark. Fuel Oil Co.'s No. 1 Gandy unit, 606 ft. N, 662 ft. E, SW cor. SE Sec. 12-10-2e. Set 10¾-in. csg. 192 ft.; W.O. C.
Peterson Pet. Corp.'s No. 1 Tremont Lbr. Co., C NE SW Sec. 25-9-2e. Set 10¾-in. csg. 140 ft.; arng. core 1,865 ft.
Placid Oil Co.'s No. 20 Gandy-La. Central unit, C NW NE Sec. 13-10-2e. Set 10¾-in. csg. 109 ft.; T. Wlx. 1,610 ft.; cg. 2,379 ft.
Placid Oil Co.'s No. 17 La. Central, C NW SE Sec. 19-11-3e. T. Wlx. 1,590 ft.; cd. 2,200-2,410 ft.; all sds.; S.W.: tstd. dry 4,950-80 ft.; set 7-in. csg. 2,-250 ft.; O.T.D. 5,097 ft.
Placid Oil Co.'s No. 19 La. Central, C NE NW Sec. 36-10n-2e. Set 10¾-in. csg. 100 ft.; drlg. 257 ft.
Skipper Oil Co.'s No. 1 Whidden, 800 ft. N, 520 ft. E, SW cor. Sec. 10-9-3e. Set 10-in. csg. 110 ft.; T. Wlx. 1,930 ft.; arng. core 2,542 ft.
Fred Stovall, Tr.'s No. 1 Russell, 200 ft NW cor. SE SE Sec. 25-10-1e. Set 10-in. csg. 60 ft.; drlg. 265 ft.
G. W. Ziegen's No. 17 La. Central, C NW NE Sec. 36-11-2e. T.D. 2,030 ft.; S.D.

Morehouse Parish

Southern Carbon Co.'s No. 32 Tensas, Sec. 28-22-4e. R.U.

Ouachita Parish

Interstate Nat. Gas Co.'s No. 98 fee, Sec. 44-19-3e. Set 12½-in. csg. 170 ft.; W. O.C.

Sabine Parish

Geo. L. Pace's No. 5 DeSoto, 330 ft. NE cor. SE Sec. 27-10-13. Set 7-in. csg. 1,-940 ft.; T.D. 1,941 ft.
Shell Oil Co., Inc.'s No. 1 Pickering Lbr. Co., C NE SW Sec. 30-4-12. R.U.

Union Parish

Memphis Nat. Gas Co.'s No. 1 Potts, Sec. 15-21-3e. Set 6-in. csg. 2,147 ft.; W.O.C.

Webster Parish

W. C. Feazel's No. 1 Tillman, 1,320 ft. NW cor. NE Sec. 11-17-9. Set 13⅜-in. csg. 195 ft.; fsg. 250 ft.
Hunt Oil Co.'s No. 2 Scott, 1,980 ft. N 50 ft. E, SW cor. Sec. 20-21-9. Set 13⅜-in. csg. 610 ft.; drlg. L.&sh. 6,960 ft.
Hunt Oil Co.'s No. 6 E. L. Stewart, 200 ft. NW C NE SE Sec. 30-21-10. Set 9⅝-in. csg. 5,606 ft.; drlg. sh. 8,316 ft.
Midstates Oil Corp.'s No. 1 Giddens unit, 282 ft. N and W, C SW NE Sec. 30-21-9. Set 9⅝-in. csg. 5,620 ft.; T.D. 5,985 ft.; W.O.C.

S. LOUISIANA WILDCATS

Acadia Parish

Humble O. & R. Co.'s No. 1 Leger, Sec. 22-10s-1e. Loc.

Becuregard Parish

Danciger O. & R. Co.'s No. 1 G. E. LeRoy, Sec. 2-3s-9e. 10¾-in. csg. 2,048 ft.; drlg. sh.&sd. 8,361 ft.

Calcasieu Parish

G. E. Burford et al's No. 1 La. Farm & Livestock Co., Sec. 7-11s-9w. Loc.
W. T. Burton et al's No. 1 Mayo Realty Co., Sec. 8-11s-8w. Drlg. sh. 5,463 ft.
Hamman Expl. Co.'s No. 1 Sabine Rice Ld., Inc., Sec. 3-11s-11w. Loc.
M. H. Hennah's No. 1 J. S. Reed, Sec. 18-10s-12w. S.D. 2,214 ft.

Cameron Parish

Phillips Pet. Co.'s No. 1 Miami Corp. Sec. 11-4s-6w. Well tried to blow out; stk. D.S.; sdtrkd. 3,775 ft.; 9⅝-in. csg 9,583 ft.; T.D. 10,655 ft.; will run short string of csg. to test gas sd. 10,196-10,207 ft.
Superior Oil Co.'s No. 3 State. Sec. 1-14s-9w. Drlg. sh.&sd. 9,080 ft.

Iberville Parish

Falcon-Seaboard's No. 1 Folse, Sec. 11s-13e. 13⅜-in. csg. 2,335 ft.; drlg. sh. 9,115 ft.

Jeff Davis Parish

H. M. Naylor's No. 1 Acadia Dev. Co., Sec. 12-10s-2w. 10¾-in. csg. 2,115 ft.; 9⅝-in. csg. 9,006 ft.; T.D. 10,000 ft.: 7-in. csg. 10,000 ft.; perf. csg. 9,700-11 ft.; flwd. 5 bbl. 43-gr. dist. and 2 bbl. S.W. per hr.; ½-in. ck.; killed well; sqzd. perf.
Union Sulphur Co.'s No. 1-A Calcasieu Natl. Bnk., Sec. 2-8s-4w. Drk.

Jefferson Parish

Shell Oil Co., Inc.'s No. 1 State, Sec. 27-20s-24e. Drlg. 154 ft.
Vendome Pet. Co.'s No. 1 Coulon, Sec. 15-15s-23e. T.D. 10,607 ft.; abd.

La Fourche Parish

Ernest Cockrell's No. 1 La Fourche Ld. Co., Sec. 32-18s-22e. 10¾-in. csg. 650 ft.; T.D. 2,988 ft.; T.A.
Gulf Oil Corp.'s No. 1-B Bowie Lbr. Co., Sec. 69-15s-19e. T.D. 12,512 ft.; perf. Csg. 11,140-52 ft.; rec. S.W.; abd.

Orleans Parish

W. T. Burton Co.'s No. 3 State-Lake St Catherine, Twp. 11s-14e. Loc.

Plaquemines Parish

Gulf Oil Corp.'s No. 1-E Buras Lv. dist Sec. 1-23s-10e. 9⅝-in. csg. 9,269 ft.; T.D. 9,455 ft.
California Co.'s No. 1 Delta Minerals. Sec. 2-15s-24e, 13⅜-in. csg. 2,028 ft.: 7-in. csg. 10,188 ft.; perf. csg. 9,960-63 ft.; sqzd. perf. 9,966-71 ft.; drld. to T.D. 10,258 ft.; 109-min. D.S.T. 10,165-10,258 ft.; rec. 3,000 ft. O.&G. and drlg. mud; prep. to D.D.

Rapides Parish

Gulf States' No. 1 Long Bell Lbr. Co., Sec. 46-4n-3w. S.D. 55 ft.

St. Charles Parish

Celestine Oil Co.'s No. 1 Celestine plantation, Sec. 17-11s-4e. S.D. 1,250 ft.
Texas Co.'s No. 1 State-Lake Salvador, Twp. 16s-22e. Loc.

St. James Parish

Arcadian Prod. Co.'s No. 1 Celstine Plant, Sec. 74-11s-4e. T.D. 1,244 ft.
Texas Co.'s No. 5 State, Coon Point, Twp. 23s-14e. Loc.

St. Mary Parish

E. G. Bateman et al's No. 1 W. P. Foster, Sec. 38-15s-9e. Bldg. rd.
Sun Oil Co.'s No. 1 Belle Isle, Sec. 6-18s-11e. T.D. 7,294 ft.; fsg.

Terrebonne Parish

Stanolind O. & G. Co.'s No. 1 State (Bay Junop), Sec. 35-21s-14e. 20-in. csg. 95 ft.; drlg. sh. 5,930 ft.

Vermilion Parish

Union Oil Co. of Calif.'s No. 1 Walter White hrs., Sec. 17-15s-1e. 13⅜-in. csg 2,800 ft.; sdtrkd.; 7-in. csg. 10,267 ft.; drlg. sd.&sdy. sh. 11,054 ft.
Harrison & Abercrombie's No. 1 A. F. Wilson, D. McCormick Sur.; drlg. sd.& L. 9,156 ft.
Stanolind O. & G. Co.'s No. 1 Schelle-Donovan, L. Koep Sur. Drlg. sh.&L. 4,630 ft.
Sun Oil Co.'s No. 4 Borsodi, C. Breen Sur. 13⅜-in. csg. 1,520 ft.; 9⅝-in. csg. 7,009 ft.; T.D. 11,085 ft.; perf. csg. 10,-974-92 ft.; flwd. oil and S.W.; made sqz. job.

League City—Galveston County

Phillips Pet. Co.'s No. 1 Herrick & Martin, S. F. Austin Sur. Drlg. sh. 2,736 ft.

Alta Loma—Galveston County

Stanolind O. & G. Co.'s No. 2 J. A. Hulen, A. Brigham Sur. Drlg. sh. 3,030 ft.
Stanolind O. & G. Co.'s No. 3 J. A. Hulen, A. Brigham Sur. 13⅜-in. csg. 2,440 ft.; drlg. sh. 3,970 ft.

Clear Lake—Harris County

Humble O. & R. Co.'s No. 48-C Humble-West, G. B. McKinstry Sur. Drlg. sd. 5,987 ft.

Lolita—Jackson County

Magnolia Pet. Co.'s' No. 1 Four Way ranch, I.&G.N. Sur., Blk. 1, Sec. 11. Rec. oil on D.S.T. 5,945-50 ft.; run csg.
Magnolia Pet. Co.'s No. 1 O. G. Hinshaw, S. F. Austin Sur. 5. Drlg. sh. 1,839 ft.
Magnolia Pet. Co.'s No. 1 Mitchell, S. F Austin Sur. 5. Drlg. sh. 5,578 ft.

Fannett—Jefferson County

Gulf Oil Corp.'s No. 5 Bordages, J. Probarth Sur. T.D. 8,257 ft.; 5½-in. csg. 8,245 ft.
Gulf Oil Corp.'s No. 6 Bordages, J. Probarth Sur. Drk.

La Belle—Jefferson County

Sun Oil Co.'s No. 1 Foltz, Sur. 376. 9⅝-in. csg. 7,60C ft.; T.D. 8,683 ft.; 7-in. csg. 7,666 ft.

South China—Jefferson County

Pan American Prod. Co.'s No. 1 Neal. Drlg. sh. 5,567 ft.

Esperson—Liberty County

General Crude Oil Co.'s No. 21 Davis, D. Kokernot Sur. Drlg. sh. 2,836 ft.

Ace—Polk County

Shell Oil Co., Inc.'s No. 2 Kirby West-Lbr. Co., P. A. Sublett Sur. Perf. csg. 8,774-82 ft.

Segno—Polk County

Jordan Drlg. Co.'s No. 3 Hughes, I.&G. N. Sur. 10¾-in. csg. 2,150 ft.
Gordon Oil Co.'s No. 10-A Wing, I.&G. N. Sur. 15. Cg. 8,146 ft.
Gulf Oil Corp.'s No. 37 Wing, I.&G.N. Sur. 15. T.D. 8,110 ft.; 5½-in. csg. 8,-044 ft.
Gulf Oil Corp.'s No. 38 Wing, I.&G.N. Sur. 14. Loc.
Humble O. & R. Co.'s No. 24-B Kirby Lbr. Co., M. Victor Sur. T.D. 8,190 ft.; tstg.
Humble O. & R. Co.'s No. 25-BX Kirby Lbr. Corp., M. Victor Sur. Drlg. 560 ft.

Joe's Lake—Tyler County

Republic Prod. Co.'s No. 38 fee, N. Hurd Lge. Drlg. sh. 6,756 ft.
Dick Schwab et al's No. 1 Nona Fletcher Lbr. Co., E. Thompson Sur. T.D. 7,756 ft.; abd.

Hilje—Wharton County

Texas Co.'s No. 1 A. R. Benner et al, E.T.R.R. Sur., Sec. 101. T.D. 5,233 ft.; 5½-in. csg. 5,212 ft.

GULF COAST WILDCATS

Brazoria County

Glenn McCarthy's No. 1 W. B. Munson, Samuel Carter Sur. T.D. 10,860 ft.; 5½-in. csg. 10,850 ft.; prep. to test.
Rowan & Nichols Oil Co.'s No. 1 Hubbard, Wm. Harris Sur. 10-min. D.S.T. 9,107-34 ft.; rec. 128 ft. mud and dist.; T.D. 10,008 ft.; 7-in. csg. 9,680 ft.; perf. csg. 8,538-54 ft.; flwg. 4 B.F.P. H.; ⅛-in. ck.; 20% oil, bal. wsh. wtr.

Chambers County

Humble O. & R. Co.'s No. 1 State, Sec. 247, Galveston Bay, T.D. 9,225 ft.; 7-in. csg. 9,224 ft.; cg. sh. 9,279 ft.
Sun Oil Co.'s No. 1 Clara C. Smith. T.& N.O. Sur. 82. T.D. 8,865 ft.; perf. csg. 8,849-53 ft.; flwg. 50 B.F.P.D.; 1 to 80% S.W.

Colorado County

Shell Oil Co., Inc.'s No. 1 R. H. Goodrich, H. Heller Sur. Drlg. sh.&L. 7,-817 ft.

Fort Bend County

Superior Oil Corp.'s No. 2 A. P. George, A. B. Keller Sur. 10¾-in. csg. 1,816 ft. drlg. sh. 6,830 ft.

Galveston County

Stanolind O. & G. Co.'s No. 1 J. A. Hulen, A. Brigham Sur. 13⅜-in. csg. 2,-470 ft.; T.D. 9,166 ft.; flwd. 920 B.F.P. H., 65% b.s.&w., bal. oil.

Hardin County

Jack Frazier et al's No. 1 Nona Mills, S. B. Turner Sur. Drk.

Harris County

Christian-Carpenter Drlg. Co.'s No. 1 Anderson, J. C. Anderson Sur. 10¾-in. csg. 810 ft.; T.D. 7,508 ft.; abd.
Wm. Hobson's No. 1 N. N. Allen, Blk. 12, Geo. Green Sur. 10¾-in. csg. 725 ft.; T.D. 7,308 ft.; W.O.
Joyce Richardson's No. 1 Marks, J. C. Ogburn Sur. T.D. 7,248 ft.; 5½-in. csg. 7,128 ft.; perf. csg. 6,918-26 ft.; flwg. gas and dist.; tstg.

Jackson County

W. S. Boyle's No. 1 Beenview Dev. Co., V. Garcia Sur., Blk. 35. Drlg. sh.&L. 5,460 ft.
John Mayo and Kirkpatrick Drlg. Co.'s No. 1 J. H. Tucker, R. Musquez Sur. 10¾-in. csg. 505 ft.; drlg. sh. 6,030 ft.

Matagorda County

Texas Co.'s No. 1 A. B. Pierce. H.&G. N. Sur., Sec. 1, Blk. 65. T.D. 8,971 ft.; perf. csg. 8,290-8,300 ft.; perf. csg. 8,-265-90 ft.; flwd. 36 bbl. dist., 21 hrs.; ⅛-in. ck.; T.P. 2,950 lb.; C.P. 1,450 lb.
Texas Co.'s No. 2 R. V. Taylor, F. George Sur. Drlg. sh. 8,680 ft.

Montgomery County

Continental Oil Co.'s No. 1 Bender est., Montgomery Co. Sch. Ld. Sur. 13⅜-in. csg. 1,243 ft.; T.D. 11,213 ft.; 9⅝-in. csg. 7,200 ft.; sdtrkd.; drld. to 11,-250 ft.; P.B. 10,219 ft.; abd.

San Jacinto County

Jack Frazier's No. 1 Coldine, J. Rankin Sur. Rec. 9 B.O. and 9 bbl. S.W.; D.S. T. 7,815-7,790 ft.; T.D. 10,002 ft.; P.B. 7,821 ft.; perf. csg. 7,805-10 ft.; rec. S.W.; W.O.

Washington County

J. A. Deering's No. 1 C. W. Bohne, S. Gates Sur. S.D. 6,545 ft.; T.A.
Mount Selman Oil Co.'s No. 1 Fritz Fuelberg, W. Lightfoot Sur. T.D. 6,-001 ft.; T.A.

Wharton County

Eura B. Oil Co.'s No. 1 Maerz, John T. Rives Sur., Sec. 64. Drlg. sh. 3,870 ft.
Sam Harrison's No. 1 Carlson, Morris & Cummins Sur., Sec. 3. O.W.D.D.; T.D. 6,510 ft.; perf. csg. 5,806-09 ft.; well went dead; R.U. to pmp.; I.P. 100 B. F.P.D.; 80% wtr.

S. W. TEXAS WILDCATS

Aransas County

Continental Oil Co.'s No. 2 St. Charles Co., R. D. Blassman Sur.; (relief well to blow out); T.D. 8,406 ft.; perf. csg. 7,636-45 ft. flwg. gas and dist.
Humble O. & R. Co.'s No. 1-27 State. Loc.

Atascosa County

H. M. Hill et al's No. 1 Campbell, Chas. Mason Sur. 128. R.U.
Walter Pope's No. 1 Countiss, A.B&M. Sur. 1013. S.D. 715 ft.
August Bering's No. 1 Rivers, B. Osborne Sur. S.D. 2,815 ft.
W. C. McGlothlin et al's No. 1 Bill, Albert Black Sur. 5½-in. csg. 3,143 ft.; rec. small amt. of oil.; T.D. 3,196 ft.; swbd. oil and sulfur wtr.; W.O.

Bastrop County

Ogden & Riddle's No. 2-B Riddle, J. B. Blalock Sur. Drlg. 1,196 ft.

Bee County

Mills Bennett Prod. Co. and Anderson-Prichard Oil Corp.'s No. 2 Robinson, J. M. Uranga Sur. (Wlx. test, West Tuleta field). 13-in. csg. 2,537 ft.; 9⅝ in. csg. 7,804 ft.; T.D. 9,210 ft.; perf. csg. 7,545-50 ft.; tstd. 6½ bbl. dist. per hr.; ¼-in. ck. on tbg.; T.P. 2,600 lb.; C.P. 2,250 lb.; S.I.; W.O.

Bell County

J. J. Cormas' No. 1 Jeff Ellis, Elizabeth Berry Sur. S.D. 493 ft.

Bexar County

H. L. Bedwell's No. 1 Russell F. Rodriguez Sur. Drlg. 515 ft.
Joe Noake's No. 1 San Antonio Sub. Irrg. Farm, W. Miller Sur. 180. S.D. 860 ft.
Roger Putnam's No. 1 Conaway, John H. Lucas Sur. 54. T.D. 810 ft.
Jos. Turner et al's No. 1 John Brown, T. H. Hobbs Sur. 357. T.D. 4,023 ft.; D.S.S.

Brooks County

Sun Oil Co.'s No. 1-A Charles Boedecker, Sec. 16, C.C.S.D.&R.G.N.G. Sur. Loc.
West Prod. Co.'s No. 1 J. D. Cage, G.C.& S.F. Sur. 31. Drlg. sh. 600 ft.

Burleson County

H. Y. Barnett's No. 1 Fick. J. S. Cox Sur. S.D. 2,004 ft.

Caldwell County

Weygand Bros.' No. 1 W. C. Hill, John D. Rains Sur. Drlg. 1,404 ft.

Calhoun County

Coronado Corp.'s No. 1 K. Welder, Hidalgo Sur., 3 mi. SE Seadrift. "Tight well"; reported to be tstg.; 5½-in. csg. 9,750 ft.; perf. csg. 8,473-84 ft.; swbd. S.W.; perf csg. 5,654-56 ft.; rec. 1,400 ft. P.L.O. on 15-min. D.S.T.
Ray Ranger et al's No. 1 W. R. Sells, Sam Houston Sur. T.D. 9,011 ft.; abd.

Duval County

Bridwell Oil Co.'s No. 1-A Rogers, J. Poitevent Sur., Sec. 21. Rec. 210 ft. oil; 10-min. D.S.T. 4,321-27 ft.; T.D. 4,-327 ft.; 5½-in. csg. 4,321 ft.; perf. csg. 4,323-35 ft.; flwd. gas; S.D.
Kean & Williamson's No. 1 E. E. Rector, J. Roberts Sur. T.D. 1,897 ft.; 6⅝-in. csg. 1,732 ft.; swbg.
W. L. Catlin et al's No. 1 Louis Escapule, J. Poitevent Sur. 73. R.U.

TEXAS

Week Ended June 29

GULF COAST FIELDS

Anchor—Brazoria County

Humble O. & R. Co.'s No. 2 Mettler. 7-in. csg. on bttm.; dpnd. to T.D. 10,-605 ft.
Sun Oil Co.'s No. 1 Morris Stern, Shubal Marsh Sur. 18⅝-in. csg. 128 ft.; T.D. 10,751 ft.; 7-in. csg. on bttm.; perf. csg. 10,570-74 ft.; flwd. oil and S.W.

Old Ocean—Brazoria County

Fidelity O. & R. Co.'s No. 1 Chenault, C. Breen Sur. Drlg. sd.&sh. 8,567 ft.
Harrison & Abercrombie's No. 8 Bernard, C. Breen Sur. Drlg. sh.&sd. 9,920 ft.
Harrison & Abercrombie's No. 1 Dailey, C. Breen Sur. Drlg. sh.&L. 7,820 ft.
Harrison & Abercrombie's No. 1 Mueller et al, M. M. Nuckols Sur. Drlg. sh.& sd. 10,115 ft.

Diamond-Half Oil Corp.'s No. 1 Cantu, Ponciano Alanis Sur. Drlg. sh. 2,986 ft.
Forest Dev. Corp.'s No. 1 Rogers, J. Poitevent Sur. 275. Drlg. sh. 4,306 ft.
Frank Frohnoefer's No. 1 V. Carrillo, A. Cantus Sur. T.D. 5,529 ft.; abd.
Henderson Coquat's No. 1-B Southland Life Ins. Co., Santos Flores gr. Drlg. 1,560 ft.
Magnolia Pet. Co.'s No. 1 Sinclair hrs., F. C. and C. K. Gravis Sur. 510. T.D. 3,601 ft.; abd.
Providence Oil Corp.'s No. 1 C. Driscoll, I.&G.N. Sur., Sec. 138. Drlg. sh. 2,525 ft.

Gillespie County

E. L. Nixon's No. 1 Mayford, Pedro Cobrera Sur. 29. S.D. 270 ft.

Goliad County

J. K. Culton's No. 1 S. E. Cole, Goliad Town Tr. Drlg. 1,230 ft.

Guadalupe County

Lavernra Lbr. Co.'s No. 1 Boeck, J. Christopher Sur. 134. Drlg. sh. 300 ft.

Jim Hogg County

French Oil Corp.'s No. 3 Pena, G. W. Rose Sur. 574. Loc.
Humble O. & R. Co.'s No. 3 Mestena O. & G. Co., San Antonio de Baluarte gr., Sec. 392. T.D. 5,115 ft.; S.D.
Patel Drillers, Inc., et al's No. 1 Guttierez, E. C. Barton Sur. 579. Spd.

Jim Wells County

Henshaw Bros.' No. 1 L. L. Allen, Casa Blanca Sur. 10¾-in. csg. 648 ft.; drlg. 4,127 ft.
Hewitt & Daugherty's No. 1 Carver, I.& G.N.R.R. Sur. T.D. 5,286 ft.; perf. csg. 5,276-86 ft.; flwg. gas and dist.

Kendall County

C. M. Dewey's No. 2 Seidensticker, R Davis Sur. 20. S.D. 1,415 ft.; abd.

Kimble County

Austin Bridge Co.'s No. 1-A Wilkinson, Brooks & Burleson Sur. R.U.
J. C. Renfro's No 1. D. C. Morales, Hrs. of H. Grote Sur. 423. S.D. 2,000 ft.
Schwab-Carlyle & Auld's No. 1 Baker, F. C. Stisser Sur. Drlg. L. 2,229 ft.

Kleberg County

Skelly Oil Co.'s No. 1 State, Laguna de Los Olmos gr., Tr. 385. 7⅝-in. csg. 7,669 ft.; T.D. 9,429 ft.; perf. csg. 7,458-60 ft.; flwd. 141 B.O. in 30½ hrs.; killed; made sqz. job.

La Salle County

H. R. Cullen's No. 1 A. L. Washburn, H. &G.N. Sur. 67. Rec. 150 ft. gas-cut mud; S.O.: D.S.T. 4,740-4,805 ft.; drlg. sh. 7,010 ft.

Lee County

Fred Pederson et al's No. 1 Brown, David Hudson Sur. T. Glen Rose L. 6,600 ft.; 5½-in. lnr. cmtd. 8,201 ft.; drlg. L. 8,435 ft.

Live Oak County

Continental Oil Co.'s No. 1 Cartwright, J. Sandman Sur. 32. R.U.
Luling O. & G. Co.'s No. 2 Northern Royalty Corp., G.H.&H. Sur. 1. Drlg. 1,560 ft.

McMullen County

W. F. Ashby's No. 1 Enlaw, D. M. Stapp Sur. 27. S.D. 1,310 ft.
H. F. Baker's No. 1 Galloway, G. R. Galloway Sur. 34. Drlg. sh. 1,176 ft.
Cities Service Oil Co.'s No. 1 H. W Rhode, Seale & Morris Sur. 13. T.D. 3,123 ft.; abd.
Jake Jarmon's No. 1 Hayter, B.S.&F. Sur. 105. R.U.
McCormick-King Prod. Co.'s No. 1 Shiner, Jose Alderete Sur. 14. Drlg. 890 ft.

Medina County

W. D. Bacon's No. 1 Wurzbach, Juan Delgado Sur. 37½. T.D. 420 ft.; 8¼-in. csg. 420 ft.; S.D.

Nueces County

Forrest Dev. Corp.'s No. 1 Merritt, L. I. Mfg. Co. Sur., Sec. 160. T.D. 6,599 ft.; abd.
Humble O. & R. Co.'s No. 1 State, Nueces Bay, Tr. 723. 10¾-in. csg. 1,712 ft.; cd gas sd. 3,978-4,022 ft.; T.D. 5,200 ft.; perf. csg. 3,940-90 ft.; tstg.
Humble O. & R. Co.'s No. 1-B State, Tr. 706. Loc.
Pure Oil Co.'s No. 1 S. Little, S. Ward Sur. 194, 13⅜-in. csg. 179 ft.; drlg. sh. 8,630 ft.
Richardson Pet. Co.'s No. 1 Boy Scouts of America, M. L. De Herrera gr. (Robstown field). Drlg.
S. E. W. Oil Co.'s No. 1 Fred Talley, Sec. 10, Paul subd., Driscoll ranch. Spd.
Fred W. Shield's No. 1 J. O. Moore, De Lores I.&A. Sur., Sec. 143. 10¾-in. csg. 766 ft.
Stanolind O. & G. Co.'s No. 1 State, C. M. Blucher Sur., Tr. 746, 1½ mi. S of E. White Point field. Loc.
Texas Conservative Oil Co.'s No. 1 Isensee, Gregorio Farias Sur. Cg. sh. 5,850 ft.

San Patricio County

W. S. Boyle and R. Wimberly's No. 1 R. L. Hodges. Drlg. sh. 4,220 ft.

Starr County

Lynes & Robertson's No. 1 Villareal, C. CS,D.&G.N.R.R. Sur. 241. Loc.
Sun Oil Co.'s No. 1 Claude King, C.C.S. D.&R.G.N.G.R.R. Sur. 511. Cg. 4,950 ft.
Syndicate Oil Corp.'s No. 1 Sanchez, Santos Sanchez Sur. 344. T.D. 1,004 ft.

Travis County

J. H. Sprouls and A. G. Hinn's No. 1 A. D. Balm, Santiago de Valle gr. T.D. 1,273 ft.
Ralph R. Tanner's No. 1 Felix Cherico, Santiago del Valle Sur. S.D. 660 ft.; abd.

Val Verde County

Joiner Oil Co. et al's No. 1 Clyde Sellers. T.D. 2,002 ft.; rmg.

Victoria County

Coastal Drlg. Co.'s No. 1 Goldman, V. Garcia Lge. Drlg. sh. 5,251 ft.
Colton & Colton's No. 1 Terrell, J. B. Sideck Sur. T.D. 5,285 ft.; 7-in. csg. 5,284 ft.; T.D. 5,610 ft.; 5-in. lnr. on bttm.
Colton & Colton's No. 1 Wray, C. L. Thurmond Sur. R.U.
Humble O. & R. Co.'s No. 1 E. N. Nave, M. J. Treaviesa gr. Cg. sh. 4,487 ft.
Pacific Irwin O. & G. Co.'s No. 1-B Keeran, M. de Leon Sur. S.D. 7,503 ft.
S. W. Richardson's No. 1 Keeran, M. de Leon Sur. T.D. 8,429 ft.; abd.
Texas Gulf Prod. Co.'s No. 1 Wiseheart, F. Perez Sur. 10¾-in. csg. 1,023 ft.; T.D. 6,506 ft.; 5½-in. csg. 5,240 ft.; perf. csg. 5,183-85 ft.; rec. S.W.

Webb County

G. W. Basom's No. 1 Adami, J. H. Gibson Sur. 341. Loc.
H. E. Hall's No. 1 Slator, Mission Oil Co., J. V. Borrego gr. 7-in. csg. 1,456 ft.; S.D. 1,470 ft.
Locke Purnell's No. 3 Kirkpatrick, C.C. S.D.&R.G.N.G. Sur. 27. T.D. 2,646 ft.; abd.
M. L. Massingill's No. 2 Kirkpatrick, C. C.S.D.&R.G.N.G. Sur. 59. Loc.
Tide Water Asso. Oil Co.'s No. 8 Bruni, M. Ariape gr.; (deep test, Bruni field). 10-in. csg. 4,480 ft.

Williamson County

C. C. Lanier's No. 1 Guental, Harry Cooke Sur. Drlg. 2,467 ft.
C. D. Lane's No. 1 Krieg, H.T.&B. Sur. 3. Drlg. L. 1,410 ft.

Wilson County

W. D. Moore et al's No. 1 Lorenz, Morris May Sur. S.D. 75 ft.
Walter Nelson's No. 1 Geo. W. Platner, T.E.L. Parrott Sur. 160. R.U.
E. E. Young's No. 1-A McMeans, C. W. Parrott Sur. Drlg. sd.&sh. 810 ft.

Zapata County

Buffalo Oil Co.'s No. 1 A. Martinez, T.T. R.R. Sur. 257. Loc.
Hawkeye Pet. Co.'s No. 1 Uribe, J. V. Borrego Sur. T.D. 3,212 ft.; S.D.

Zavala County

H. F. Wilcox O. & G. Co.'s No. 6 Gilliam, Pedro Mesa Sur. 12. T.D. 3,922 ft.; recmtg. csg.

WEST TEXAS WILDCATS

Andrews County

Atlantic Refg. Co.'s No. 1-2 University, Sec. 2, Blk. 11, Univ. Lds. Sur. T.D. 4,250 ft.; prep. shoot.
Atlantic Refg. Co.'s No. 1-23 University, Sec. 23, Blk. 11, Univ. Lds. Sur. Drlg. 4,242 ft.
Heimerich & Payne, Inc.'s No. 1 University, Sec. 11, Blk. 11, University Sur.; 5,500-ft. test. Flwg. 10 B.O.P.H.; T.D. 4,475 ft.; has been acd. with 14,000 gal. and shot with 500 qt.; taking pumping gage.
Texas Pacific Coal & Oil Co.'s No. 1-A Midland farms, NE NW Sec. 1, Blk. 40, Twp. 1n, T.&P. Survey, 5,000-ft. test. Loc.

Brewster County

J. W. Quinn,, Tr.'s No. 1 S. L. Strumburg, NW cor. SE Sec. 70, Blk. G, M.K. &T.E. Sur., 2,500-ft. test. Drlg. 495 ft.

Cochran County

Texas Co.'s No. 1-F Mallett Land & Cattle Co., SW cor. Labor 25. Lge. 51, Scurry C.S.L. Sur. R.U.S.T. 5,000 ft.

Concho County

Floyd Dodson's No. 1 Wilson, Thomas Green Sur. 1 3,500-ft. test. Drld. sst. 3,753-56 ft.; prep. set csg. to test.

Crane County

Gulf Oil Corp.'s No. 5 M. B. McKnight, Sec. 1, Blk. 21-B, P.S.L. Sur. Drlg. 6,764 ft.
Gulf Oil Corp.'s No. 1-F University, SE SE Sec. 22, Blk. 31, Univ. Sur. Drlg. 1,580 ft.
Gulf Oil Corp.'s No. 12 Waddell, Sec. 30, Blk. 26-B, P.S.L. Sur. 12-in. 532 ft.; S.O. 3,215-20 ft.; S.S.G. 3,635 ft.; 8-in. csg. cmtd. 3,713 ft.; S.O. wtr. 3,763 ft.; tstg. 3,780 ft., mostly wtr.; fsg. tool 4,404 ft.; topped 13,000,000 cu. ft. gas at 4,385 ft.
Gulf Oil Corp.'s No. 31 Waddell Sec. 5 Blk. 24-B, P.S.L. Sur. T.D. 4,047 ft., wtr.; P.B. to 3,400 ft.; swbd. 74 B.O. in 24 hours.

Crockett County

Gregory & McCandless' No. 1 Shannon estate, 1,787 ft. from S and 3,107 ft. from E lines of Lge. 3, Archer C.S.L. Sur. Drlg. 350 ft., last report.
Lewis & Shannon's No. 1 Noelke, SW cor. NE Sec. 30, Blk. GG, H.E.W.T. Sur. Top Yates sand 900 ft.; made 35 B.O.P.D.; tstg.; T.D. 1,100 ft.; tstg.
M. & M. Drlg. Co.'s No. 1 G. Bouscaren, SE cor. NW Sec. 29, Blk. G.G., H.E.& W.T. Sur., 1 mi. N of Soma discovery well. Prep. spud.
Mauldin & Solmon's No. 1 Noelke, SE cor. Sec. 56, Blk. G.G., H.E.&W.T. Sur., ¾ mi. NW of Soma discovery well, Prep. spud.
Moore Explin. Co.'s No. 1 A. C. Hoover, Sec. 16, Blk. 1, G.C.&S.F. Sur. W.O.C. 2,100 ft.; S.S.O. 1,920-2,100 ft.; installing pumping unit; swbd. 21 B.O. in 6 hrs.; T.D. 2,149 ft.
Moore Explin. Co.'s No. 1 Noelke, Sec. 10, Blk. G.G. Made 7 B.O.P.D. swbg. from 2,150-2,233 ft.; pump. 7 bbl. oil hourly after acid from 2,338-71 ft.; pumped 129 B.O.P.D.; T.D. 2,371 ft. S.I.

Culberson County

Cothran et al's No. 1 Casey-Rounsaville, C SW¼ Sec. 7, Blk. 104, P.S.L. Sur. R.U.M.

Dawson County

Ray Albaugh's No. 2 Robinson, NW NW Sec. 54, Blk. M, E.L.R.R. Sur. S.D.O. 5,214 ft.; S.S.O. 5,206-14 ft.; prep. cmt. csg.

Gaines County

Richmond Drlg. Co. et al's No. 1 G. R. Brumley, NE NE Sec. 17, Blk. 12-A. P.S.L. Sur. T.D. 4,664 ft.; S.S.O.; rng. 5½-in. csg.

Howard County

R. M. Huff's No. 1 E. W. Douthitt, 330 ft. from W and 2,310 ft. from S lines of Sec. 116, Blk. 29, W.&N.W. Sur. S.D.R. 335 ft.
C. T. McLaughlin's No. 1 Pete Johnson, NE NE Sec. 34, Blk. 32, Twp. 1n, T. &P. Sur. Drlg. 2,497 ft.
M. L. Richards' No. 1 Thelma J. Cole, SE NW Sec. 12, Blk. 26, H.&T.C. Sur. 3,500-ft. test. Drlg. 875 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co.'s No. 1 Briggs, Sec. 24, Blk. 73, Twp. 7, T.& P. Sur. T.D. 6,175 ft.; 5½-in. csg. set at 6,166 ft.; T.D. 6,175 ft.

Mitchell County

B.R.S. Oil Co.'s No. 1 M. A. Berry, 407 ft. from S and E lines of Sec. 83, Blk. 97, H.&T.C. Sur. C.O. after shot 1,739-93 ft.; hole fills 150 ft. with oil in 12 hrs.; tstg.
Dockery & Robbins' No. 1 C. G. Crawford, SW SW Sec. 13, C. A. O'Keefe subd. Drlg. 760 ft.
J. B. Ewing's No. 1 L. A. Strain, 330 ft. from N and 2,970 ft. from W lines of Sec. 63, Blk. 97, H.&T.C. Sur. Drlg. 877 ft.
Ewing & Hanes' No. 1 G. I. Grable, Sec. 195, Blk. 3, H.&G.N. Sur.: 1,800-ft. test. Prep. shoot 1,598-1,700 ft.; 550 ft. O.I.H.
N. V. Hilburn's No. 1 B. W. Jackson, NE cor. NW Sec. 82, Blk. 97, H.&T.C. Sur., in same section as No. 1 Strain. S.D. 50 ft.; prep. D.D.
N. V. Hilburn's No. 1 E. T. Strain, Sec. 82, Blk. 97, H.&T.C. Sur. S.D.O. 1,790 ft.; drld. sst. 1,706-32 ft. and 1,736-39 ft.; est. 4 B.O.P.D. naturally; shot 300 qt. 1,700-1,800 ft.; bailing 5 B.O. per hour; 1,800 ft., T.D.

Pecos County

B. McCandless and General Crude Oil Co.'s No. 1 Virginia W. Crockett, Sec. 5, Blk. 110, T.C.R.R. Sur. T. Ellenburger 4,401 ft.; tstg. est. 6,000,000 cu. ft. gas after acd.; rng. tbg.; T.D. 5,479 ft.; est. 4,000,000 cu. ft. gas and 365 B.O. P.D.; made 531 B.O. in 5 hrs.; S.I.
R. G. Pattillo's No. 1 P. E. O'Neal, SW SW Sec. 74, Blk. 10, H.&G.N. Sur., 5,000-ft. test. S.D.O. 260 ft. (cor.).
Plymouth Oil Co.'s No. 1 Richard Levy, SW cor. Sec. 104, Blk. 8, H.&G.N. Sur. Drlg. 4,629 ft.
H. H. Sides' No. 1 Blackstone-Slaughter, Sec. 29, Blk. 129, T.&St.L. Sur., 1,050 ft. W. 250 ft. S lines of section. T.D. 1,100 ft.

Presidio County

H. D. Wilcox's No. 1 C. E. Conring, 500 ft. from the N and 2,080 ft. from the E lines of Sec. 102, Blk. 4, G.H.&S.A. Sur. Loc.

Reagan County

R. E. Ringo's No. 1 fee, 1,320 ft. from N and W lines of Sec. 22, Blk. K, 3,500-ft. test. M.I.M.

Reeves County

Roy Johnson's No. 1 H. L. Perkins. Drlg. 915 ft.

Scurry County

Coffield & Guthrie, Inc.'s No. 1 J. W Moar, Sec. 334, Blk. 97, H.&G.N. Sur., NW Sec. 4,500-ft. test. Drlg. 4,010 ft.
Ordovician Oil Co.'s No. 1 O. L. Burney, NW NW Sec. 146, Blk. 97, H.&T.C Sur. Flwd. 145 B.O. in 6 hrs.; T.D. 2,461 ft.; tstg.

Stonewall County

Shell Oil Co., Inc.'s No. 1 J. D. Patterson, SW NW Sec. 393, Blk. D, H.& T.C. Sur. Ordovician test. M.I.M.
Shell Oil Co., Inc.'s No. 1 Smith, Sec. 143, Blk. 1, H.&T.C. Sur. Top Mississippian at 6,007 ft., top saturation at 6,015 ft. and drilled to T.D. 6,028 ft. in saturation; flwd. 280 bbl. oil in 24 hrs.; T.D. 6,085 ft.; last report; at 6,050 ft. well flowed 68 B.O.P.D.

Sutton County

Domain Oil Co.'s No. 1 G. S. Allison, SW NE Sec. 91, Blk. 9, T.W.&N.G. Sur., Ellenburger L. test. Loc.

Terry County

Ray Albaugh's No. 1 Frances Christian, NW cor. Sec. 49, Blk. T, D.&W. Sur., 5,500-ft. test. Loc.
Denver Prod. & Ref. Co.'s No. 1 Ima Lewis, SE SE Sec. 62, Blk. DD, J. H. Gibson Sur. W.O.R. 165 ft.
J. M. Welborn's No. 1 W. E. Bailey, NW NW Sec. 103, Blk. 4-A, C.M.&R.R. Sur. 5,400-ft. test. W.O.R. 144 ft.

Tom Green County

Dan Short's No. 1 J. G. Davidson, 2,161 ft. from SL, 2,493 ft. from NW cor. L. P. Moore Sur. S.S.O.&G. 2,660-65 ft.; S.D. 3,410 ft.; undecided whether to run csg. or abd.
Gulf Oil Corp.'s No. 1-A Scarborough, Sec. 7, Blk. 22-C, P.S.L. Sur., 1 mile N of Keystone field. S.D.O. 4,276 ft., sulf. wtr.

Upton County

B. C. & D. Dev. Co.'s No. 1 Richard Owens, NE NW Sec. 91, Blk. Y, G.C. &S.F. Sur. Drlg. 940 ft.

Ward County

Atlantic Ref. Co.'s No. 1 Wickett-University, Sec. 12, Blk. 16, University Lds. Sur., 1,980 ft. N and E lines of section. Prep. D.D. 2,733 ft.; S.S.O. 2,570-2,677 ft.; est. 380,000 cu. ft. gas; flwd. 30 to 40 bbl. oil hourly 2,892 to 2,907 ft.; flwd. 445 B.O. and 1,487 B.W. in 24 hrs.; made 458 bbl. oil and 357 bbl. water in 24 hrs.; P.B. to 2,912 ft. to shut off wtr.; last flow 480 bbl. fluid, 52 bbl. were oil; tstg. for completion.
Gulf Oil Corp.'s No. 5 Wristen, Sec. 13, Blk. 5, H.&T.C. Sur.; scheduled Ordovician test. Drlg. 8,132 ft.
Kenneth Slack's No. 1 Bird Hayes, Sec. 148, Blk. 34, H.&T.C. Sur. T. Delaware 5,003 ft.; S.D. 5,010 ft.; T. Dela. sd. and hit est. 15,000,000 cu. ft. gas at 5,050 ft. and gas ignited; making 10,000,000 cu. ft. gas daily; made 1 bbl. oil hourly on test; later made est. 2 bbl. hourly; 5,063-88 ft. T.D.; S.I. 5,088 ft.; made 2 bbl. oil per hr. through separator with 12,000,000 cu. ft. gas; tstg.

Winkler County

Gulf Oil Corp.'s No. 136 O'Brien, SE **SW Sec. 11, Blk. F, G.M.M.B.&A. Sur.** Drlg. 3,046 ft.

Yoakum County

Amerada Pet. Corp.'s No. 1 A. M. Brownfield, NE SW Sec. 620, Blk. D, Gibson Sur. 5,500-ft. test. Drlg. 5,282 ft.

E. C. TEXAS WILDCATS

Angelina County

Summerall-Harris' No. 2 G. E. Condra, D. W. Maroney Sur., ½ mi. W of Huntington. S.D. 1,400 ft.

Camp County

W. C. McGlothin's No. 1 Venters, S. Wright Sur., 3 mi. SE Leesburg. R.U. to D.D. to Pett. zone; prep. set csg. to test show in Pett. L. 7,943-90 ft.; had 47 ft. of sat. and por.; S.D. for tite trouble at 8,087 ft.; well has not been opened; will test about June 22.

Cherokee County

R. D. Salisbury's No. 1 W. M. Shankle, J. A. Manchaca Sur., 1⅛ mi. NE Chilton. P.B. 1,103 ft.; S.D.; W.O.

Delta County

Partin & Skinner's No. 1 W. C. Lomax, NW cor. 104-ac. tr. in T. Jones Sur. Drk.

Fannin County

C. Newburn's No. 1 A. G. Allen, M. Caldwell Sur., 7 mi. NE of Banham. R.U. and S.D.
Mrs. A. B. Powell's No. 1 Maude Barker, T. Harrison Sur., 9 mi. N of Bonham, SE cor. 42-ac. tr. S.D. 65 ft.

Henderson County

Manning & Pickens' No. 1 T. H. Bell, D. Muckleroy Sur., 6 mi. SW of Mabank. Perf. csg. 3,184-87 ft.; tstd. oil; S.I. for storage; will make well.

Houston County

Elmer Hay, Tr.'s No. 1 Starr Pope, J. Forbes Sur., 2 mi. S of Lovelady, NW cor. 162-ac. tr. S.D. 2,132 ft.

Kaufman County

Bateman & DeArman's No. 1 General American Life Ins. Co., J. Baker Sur., 6 mi. W of Mabank. T.D. 3,040 ft.; missed the Woodbine sd.; prep. abd.
W. H. McGee's No. 1 Rutland Savings Bnk., John Baker Sur., 2¼ mi. NE of Tulosa. T.D. 3,120 ft.; prep. perf.
T. G. Shaw, Tr.'s No. 1 Angus Wynne, B. S. Newman Sur., 8 mi. E. Kaufman. lower Trinity test. T. anhy. 5,934 ft.; T. Massive 6,123 ft.; B. Massive 6,255 ft.; D.P. stk. 6,454 ft.

Leon County

Alexander & Wilhite's No. 1 C. H. Mills, M. Copeland Sur., 2½ mi. E of Normangee. S.D. 10 ft.

Limestone County

Taylor, Lytle & Phillips' No. 1 J. W. Reid, P. Varela Sur., in Mexia field: deep Trinity test, located 150 ft. NW line, 714 ft. NE line of 117-ac. tr. Loc.

Nacogdoches County

Melrose Oil Co.'s No. 1 C. N. Wilson J. Hall Sur., 10 mi. SE of Nacogdoches. Swbg. fresh wtr.; S.S.O. 2,329 ft.

Navarro County

W. H. Warren's No. 1 L. Grey, E. Powers Sur., 9 mi. SE of Kerens. S.D. 660 ft.; T.D.

Red River County

Joe White's No. 1 Kurth Lbr. Co., E. Smith Sur., near Allen Mill. R.U.R.

Robertson County

Rhett Wilder's No. 1 Moise Cerf., J. Erwin Sur., 7 mi. S of Franklin. S.D.O. 1,611 ft.

Rusk County

J. S. Harrold's No. 1 M. J. Armstrong, M. D. Carmel Sur., 3 mi. SE Henderson. Drlg. 1,550 ft.

A. O. Whittington's No. 1 Kangerga Bros., Ign. Castro Sur., 9½ mi. N and slightly E of Pirtle. S.D.O. 3,093 ft.

Upshur County

H. C. McGahey's No. 1 Ludie Turner, SE cor. 200-ac. tr. in A. Butler Sur. Spd. and S.D.

Van Zandt County

Graddy's No. 1 Dr. C. Brandon, W. C. Scott Sur., 5 mi. NE of Edgewood. Bldg. drk.

E. L. Shackelford's No. 1 E. J. Combs, J. Wright Sur., 3½ mi. NW of Grand Saline. S.D. 54 ft.

EAST TEXAS

(Border Counties)

Bowie County

W. E. Neill's No. 1 L. Fort, 600 ft. NL, 150 ft. EL, 103-ac. tr., L. Peters Sur. S.D. 2,050 ft.

W. E. Neill's No. 1 Lewis Fort, 600 ft. N and E lines of 103-ac, tr., L. Peters Sur. S.D.O. 2,050 ft.

Shell Oil Co., Inc.'s No. 1 W. D. Hall, 6,900 ft. EL and 4,000 ft. SL of J. Downey Sur.; 6,000-ft. test. Drlg. sd.& sh. 3,229 ft.

Harrison County

Ark. La. Gas Co.'s No. 1-C Abney, Jas. Shandoin Sur. Drlg. 5,630 ft.

Union Prod. Co.'s No. 1 John S. Bryson, T. D. Wilson Sur., 2½ mi. SW of Waskom area. R.U.

Marion County—Other

L. E. Baker & Bryan's No. 1 A. L. Hartzo, 1,460 ft. N, 315 ft. W, SE cor. G. Coor Sur. Fsg. 2,319 ft.

J. D. Baker's No. 2 Decker, 500 ft. S, 300 ft. W, NE cor. J. G. Reeves Sur. Drlg. sh. 860 ft.

R. S. Barnwell, Jr.'s No. 1 J. Fitzgerald, 1,100 ft. S, 800 ft. W, NE cor. N. Gumpton Sur. Set 10¾-in. csg. 45 ft.; prep. run csg. 2,410 ft.

John Coats' No. 5 Ida Burr, 1,600 ft. due S No. 2, J. G. Reeves Sur. R.U.

Jules Constantine's No. 1 S. Hart, 435 ft. N, 330 ft. E, SW cor. 25-ac. tr., G. Coore Sur. Tstg. 2,310 ft.

T. B. Donnell's No. 1 E. W. Easterling, 330 ft. S, 1,200 ft. W, NE cor. 200-ac. tr., M. G. Nall Sur. T.D. 2,341 ft.; set 5⅛-in. csg. 2,234 ft.; pmpg. S.W. 2,-341 ft.; W.O.

M. D. Fitzwater's No. 1 C. Moseley, 3,800 ft. SL, 3,700 ft. WL, Wm. H. Burton Sur. 8-in. csg. 2,244 ft.; T.D. 2,316 ft.; blg. est. 10 B.P.D.

Henry & Parson's No. 1 W. C. Ralph, Ell Usury Sur., 3 mi. N of Jefferson. Set 9⅝-in. csg. 1,012 ft.; T.D. 1,865 ft.; W.O.C.

R. B. Hollandsworth's No. 1 J. D. Hartzo, 2,820 ft. N, 2,050 ft. W, SE cor. D. Hartzo Sur. 189. Drlg. 2,240 ft.

J. M. Horne's No. 1 W. F. Singleton, 1,-331 ft. EL. 50 ft. NL, J. O. Jackson Sur. Set 5½-in. csg. 2,267 ft.; tstg. 2,512 ft.

H. T. Manning's No. 1 T. O. Livingston, G. Coore Sur. Drlg. chalk 1,740 ft.

J. D. Reynolds' No. 6-B Terry est., 175 ft. NL L. Whatley tr., 1,000 ft. EL W. Coore Sur., R.U.

Roosth & Genecov's No. 1 T. O. Livingston, 300 ft. SW cor. 8-ac. tr., G. Coore Sur. Set 5½-in. csg. 2,281 ft.; T.D. 2,424 ft.; tstd. dry.; W.O.

Sanders & Wycliffe's No. 1 Sid Hart, 960 ft. N, 60 ft. E, SW cor. G. Coore Sur. Set 5½-in. csg. 2,300 ft.; W.O.C. 2,305 ft.

Texas Canadian Oil Co.'s No. 1 B. Mackey, 282 ft. NL, 218 ft. WL, 35-ac. tr., Lewis Needham Sur. Drlg. 2,147 ft.

Sabine County

Sterm & Womack's No. 1 I. K. Kieth Southwestern Lands, 400 ft. SL, 500 ft. EL, 53-ac. tr., L. Grace Sur. Drlg. sh. 1,320 ft.

Shelby County

Earl McDaniels et al's No. 1 J. S. Swann, 470 ft. EL, 1,400 ft. SL, 100-ac. tr. Ann Gray Sur. Cd. 2,665-76 ft.; rec. 11 ft. hd. dense L., stain oil.; S.D. 3,605 ft.; sh.&L.

P. & B. Oil Co.'s No. 2 W. C. Windham, A. K. English Sur. Set 10-in. csg. 170 ft.; T.D. 5,335½ ft.; tstg.

W. C. Parker's No. 1 F. G. Willey, 480 varas NL, 240 varas EL, 94-ac. tr., A. K. English Sur. Set 5½-in. csg. 3,330 ft.; cg. sh. 3,380 ft.

Superior Oil Co. of Tulsa's No. 2 Pickering Lbr. Co., 1,020 ft. N, 467 ft. E, SW cor. W. J. Crane Sur., in B. H. Simpson Sur. Drlg. 1,997 ft.

Superior Oil Co. of Tulsa's No. 3 Pickering Lbr. Co., 1,620 ft. SE, 660 ft. due W, easterly NE cor. Thos Haley Sur. Loc.

WEST CENTRAL TEXAS DISTRICT

Brown County

Simon & Wynn, G. F. Morrissey and Hill Bros.' No. 1 J. H. Fry, Blk. 33, John Williams Sur., 1,250-ft. test. Loc.

Callahan County

N. D. Gallagher's No. 1 E. Grisson, SE pt. Sec. 2, Blk. 8, S.P. Sur. Drlg. 1,100 ft.

C. D. Hagerty's No. 1 T. Windham, NW SE Sec. 154, Blk. 3, G.H.&A. Sur.; 1,-000-ft. test. Drlg. 300 ft.

H. W. Lee's No. 1 Mrs. Murray Harris, SW cor. NW SW Sec. 99, B.B.B.&C. Sur.; 1,350-ft. test. T.D. 1,229 ft.; oil sand 1,227-29 ft.; est. 30 B.O.P.D.

J. L. Reeves' No. 1 N. A. Estes, SW¼ Sec. 4, Blk. 8, S.P. Sur., 2½ mi. S of Bowles pool. M.I.M.

W. H. Street's No. 1 Hill, 1,707 ft. from S and 1,368 ft. from E lines of John Gillespie Sur. 340, 1,275-ft. test. Drlg. 660 ft.

J. F. West's No. 1 C. A. Bowman, NW SW Sec. 70, B.B.B.&C. Sur., 1,950-ft. test. Loc.

Coleman County

Anzac Oil Corp.'s No. 1 McCord, 2,200 ft. E, 2,196 ft. S of B.B.B.&C. Sur. S.D.O. 2,110 ft.

Lone Star Gas Co.'s No. 1 Irene Wells, 606 ft. from N and 770 ft. from W lines of Subd. 2, M. A. Fisk Sur. 630, 2,400-ft. test. R.U.M.

R. H. Murray's No. 1 J. A. Norris, James Greenwood Sur., 7 mi. S of Novice field, 4,000-ft. test. Loc.

J. C. Ort's No. 1 Emet Walker, SE cor. Hicks Sur. W.O.C. 700 ft.

Coryell County

Kistler O. & G. Co.'s No. 1 Barnes, 360 ft. SE line, 3,700 ft. NE line of H. Farley Sur., 3 mi. NE of Gatesville. 2,500-ft. test. S.D.O. 830 ft.

Eastland County

Dobbs Oil Corp.'s No. 1 Mrs. R. L. Poe, 1,320 ft. from S and E lines, of SE¼ Sec. 37, Blk. 3, H.&T.C. Sur. S.D.R. 925 ft.

Dobbs Oil Corp.'s No. 1 Thomasson, S. H. Key Sur., 330 ft. from N, 846 ft. from E line of 80-ac. tr. T. Caddo 2,-560 ft.; S.S.O.&G. 2,570 ft.; set 7-in. 2,-570 ft.; comp. 243 B.P.D.

Jones & Stasney and Groover & Rose's No. 1 McElreath, C SW Sec. 104, Blk. 3, H.&T.C. Sur.; 3,500-ft. test. Drlg. 1,545 ft.

Steele & Black's No. 1 B. B. Poe, 180 ft. N and E lines, SE¼ Sec. 6, Blk. 3, H.&T.C. Sur.; 900-ft. test. T.D. 898 ft.; prep. P.B. and test.

Erath County

Dillingham's No. 1 Morning. S.S.G. 3,650 ft.; S.D.O. 3,691 ft.

E. H. Young's No. 1 J. B. Mills, J. Harry Sur., 5 mi. NW of Dublin; 3,500-ft test. Mach. on loc.

Hamilton County

A. J. Caldwell's No. 1 W. W. Jones, 1,002 ft. from NE, 150 ft. from SE lines of W. H. Crowder Sur. S.D.R. 2,890 ft.

Gunther & Smith's No. 1 C. Thompson, 467 ft. SE, 4,533 ft. SW lines, Rhody Kennedy Sur.; 4,500-ft. test. Spd. and S.D.

Hensley & Watson's No. 1 M. Manning, 467 ft. W, 2,500 ft. S lines of Agaop Gathan Sur.; 4,500-ft. test. R.U.R.

Wallace & Wallace's No. 2 C. E. Lund, C S½ E 20 ac., N½ SW¼, R. J. Bailey Sur. 51. Csg. 300 ft.; S.D. csg. 3,265 ft.; T. Marble Falls 3,245 ft.; drlg. 3,585 ft.

Jones County

Geo. Callihan's No. 1 J. J. Steele, NE cor. SE Sec. 11, Blk. 15, T.&P. Sur. Drlg. 2,400 ft.

J. C. Hunter's No. 1 J. Sayles, SE N½ Subd. 8, R. Smith Sur. 192, just NE of Hawley; 3,300-ft. test. Drld. sat. 2,334-45 ft.; tstg. aft. 1,000 gal. acid; tstg. 2,345 ft.

M. R. Mead's No. 1 E. Hicks, SE cor. Sec. 5, O.A.L. Sur.; 3,500-ft. test. Mch.

Merry Bros. & Perini's No. 1 C. S. Walker, SE cor. Walker tr., G. Martinez Sur. 137. Drlg. 1,620 ft.

J. D. Sandefer, Jr.'s No. 1 Hudspeth, 160-ac. tr. in Subd. 22, Edw. Miles Sur. 219. Drlg. 2,532 ft.

Palo Pinto County

W. B. Davis and P. F. Cole's No. 1 Jess Rogers, SE cor. T.E.&L. Sur. 894, Abst. 470; 5,500-ft. test. Loc.

Fred Guyer's No. 1 Dalton, Dalton Sur., Abst. 153; 1,400-ft. test. Loc.

E. P. Wilson's No. 1 F. M. Watson, NW pt. of Sec. 10, Blk. 2. T.&P. Sur.; 3,250-ft. test. S.D.O. 4,065 ft.

Parker County

Brown & Gardner Bros.' No. 1 Gilbert T.&P. Sur., Abst. 1958. Tstg. gas; C.O. 100 ft. off bttm.; csg. set 3,905 ft.; S.I. 4,327 ft.; est. 500,000 ft. gas and spray oil; fsg. bailer 4,412 ft.

C. F. Carter's No. 1 E. F. Yeager, 1,000 ft. from N, 300 ft. from E lines of C. H. Atkinson Sur.; 1,000-ft. test. S.D.O. 268 ft.; H.F.W.; drlg. 600 ft. last report.

W. M. Holland and C. Leidecker's No. 1 G. W. Keeling, F. Lidely Sur., Abst. 829, 1½ mi. W of Springtown; 3,500-ft. test. Drlg. 1,995 ft.

C. Leidecker and Wm. Holland's No. 1 J. A. Boyd, NE NE of S 100 ac. of A. J. Edwards Sur.; 4,500-ft. test. Drlg. 1,850 ft. last report.

Runnels County

Davis' No. 1 Summers, W½ of tr. in Day Ld. & Cattle Co. Sur., W of Beddo field. H.F. S.W.; may P.B.; tstg. 10 B.O. and 60 B. wtr.; T.D. 3,624 ft.

Homer Price's No. 1 Williams, C S½ Sec. 26, D. Diaz Sur., N outpost to Beddo field. T.D. 2,561 ft.; C.O. to D.D.

Shackelford County

T. L. Blanton's No. 1 W. F. Tucker, SW Sec. 552, T.E.&L. Sur. Loc.

John E. Carson's No. 1 R. A. Elliott, 660 ft. S and E lines, Sec. 48, B.A.L. Sur.; 3,650-ft. test. S.D. 1,685 ft.

August P. Schkade's No. 1 J. L. Godwin, NE Sec. 385, T.E.&L. Sur. Loc.

Swann & Gorsuch's No. 1 Sam Lazarus, SE SE Sec. 80, Blk. 13, T.&P. Sur. S.D.; S.S.O. 1,514-17 ft.; tstg.

L. T. Terry's No. 1 W. A. Green, NW cor. S½ NE Sec. 64, Blk. 12, T.&P. Sur. S.D.O. 1,020 ft.; C.D.

Stephens County

Carey's No. 1 Crudington, SE cor. T.E.&L. Sur. 1268, 5½ mi. S of Stribling field. W.O.C. at 3,361 ft.; S.O. from 3,-362-64 ft.; acd. with 2,000 gal. 3,362-71 ft.; S.D.O. 3,720 ft.

Dean L. Matteson's No. 1 J. R. Craighead, 933 ft. from S and 467 ft. from W lines of Sec. 1,517, T.E.&L. Sur. Loc.

Panhandle Ref. Co.'s No. 1 Frank Magers, SE Sec. 1, Blk. 3, S.P. Sur., 1¾ mi. N of Fagg area. Prep. abd. 4,037 ft.

J. R. Tolbert's No. 1 W. L. Martin, NW cor. NE¼ Blk. 1335, T.E.&L. Sur., 1½ mi. SW of Fagg area. S.D.O. 3,288 ft., corrected.

Taylor County

Yehudi Oil Co.'s No. 1 J. Bettes, R. Ortiz Sur. 19, 2,500-ft. test. S.D.O. 2,667 ft.

NORTH TEXAS WILDCATS

Archer County

Beller & Rutledge's No. 1 J. L. Anderson, Sec. 22, S.A.R. Sur. Drlg. 3,204 ft.

L. T. Burns' No. 1 Mrs. J. Turberville, NW cor. Blk. 154, Robt. Carson Sur., Abst. 80; (Caddo lime test). Drlg. 2,950 ft.

W. H. Gant's No. 1 A. Vogtsberger, Sec. 3, G. E. Co. A-146 Sur.; 5,200-ft. test. O.S. 4,659-71 ft.; L.S.O. 5,257-69 (cd.) ft.; cmtd. 6⅝-in. at 4,651 ft.; swbd. 16 B.O. in 16 hrs.; flwd. 62 bbl. in 4 hrs. through csg. after being S.I. for 2 wks.; rng. tbg.; S.I.

Paul Steed's No. 1 H. O. Prideaux, Sec. 1867, T.E.&L. Sur.; 5,000-ft. test. Loc.

Baylor County

R. T. Myers' No. 1 W. H. Portwood, Sec. 19, H.&T.C. Sur., Blk. 45. Drlg. 700 ft.

Rogers' No. 1 Howe, J. Howe Sur., Abst. 572. Drlg. 895 ft.

Clay County

Deep Rock Oil Co.'s No. 1 S. Dycus, Sec. 2602, T.E.&L. Sur. 3,600-ft. test. S.D.O. 3,682 ft.

J. E. Farrell's No. 1 C. R. Malone, Sec. 12, T.&N.O. Sur., Abst. 828. Drlg. 5,965 ft.

Franklin Pet. Corp.'s No. 1 E. B. Staggs, Blk. 55, Archer C.S.L. Sur. Drlg. 6,392 ft.

Walter Gant's No. 1 Edwards, S. C. Beldon Sur., Abst. 12, 4 mi. E of Henrietta. W.O.S. to C.O.

Alexander Goldsmith's No. 1 Republic Nat. Gas Co., 312 ft. N, 495 ft. W lines of Blk. 14, Parker Co. Sch. Ld. Sur., 1 mi. S of town of Petrolia; 4,500-ft. test. 6⅝-in. 2,402 ft.; perf. csg. 1,600-10 ft.; C.O.

E. C. Norwood's No. 1 K. N. Hapgood, Sec. 61, M.C.S.L. Sur.; 6,000-ft. test. Drlg. 5,632 ft.

Shell Oil Co., Inc.'s No. 1 Davis, Sec. 93, J. H. Belcher Sur. O.W.D.D.; L.S.O. 5,-687-5,720 ft.; T.D. 6,012 ft.; perf. csg. 3,590-3,600 ft.; tstd. 600 ft. S.W. in 30 min.; sqzd. off perf.; W.O.C.

Carlos Wagner's No. 1 L. C. Thaxton, 3,630 ft. S, 330 ft. E lines of 301-ac. tr., W. C. Donley Sur., Abst. 129, Sec. 4; 5,000-ft. test. Spd. and S.D.

Youngblood & Foree's No. 1 Ida Wynne, Sec. 2, T.&N.O. Sur., Abst. 795.; O.W. D.D. below 6,070 ft.

Cooke County

Tolbert & Rutledge's No. 1 H. W. Stark, 330 ft. from W and 466 ft. from S lines of SE¼ of D. C. Hudson Sur. Loc.

Cottle County

J. E. Burns et al's No. 1 J. E. Moss, Sec. 5, Blk. L, A. Forsythe Sur. Jnkd. 225 ft.; skd. 20 ft. S; S.D. 1,823 ft.

Denton County

Seitz, Comegy & Seitz' No. 1 F. Freeman, M.E.P.&P. Sur., Abst. 1470. Drlg. 5,038 ft.

Shooks & Finnell's No. 1 Sanders, Noling Sur. 5⅛-in. 1,995 ft.; drlg. plug; sat. L 2,013-45 ft.; acd. 1,000 gal.; shot 50 qt.; no results; S.D.O.

Trentman Oil Co.'s No. 1 A. Madwell, J. Withers Sur., Abst. 1343; 4,000-ft. test. Loc.

Hardeman County

Norris & Gilbert's No. 1 Robert Weekley, SW SE Sec. 87, Blk. 16, H.&T.C. Sur. S.D.R. 3,275 ft.; rebldg. drk.

Jack County

R. A. Conkling's No. 1 M. Hoofle, A. James Sur., Abst. 318, 3 mi. S Antelope; 3,500-ft. test. Drlg. 572 ft.

Noah Daves' No. 1 K. D. Baker, Sec. 2709, T.E.&L. Sur. Fsg. 3,166 ft.

Harper Pet. Co.'s No. 1 F. V. Vanhooser, J. F. Lewis Sur. Loc.

Harper Pet. Co.'s No. 1 J. W. Kinder, SW¼ Sec. 2667, T.E.&L. Sur., Abst. 762. T.D. 2,160 ft.; S.D.

Montague County

Continental Oil Co.'s No. 1 Drummond, SE cor. Sec. 8, Limestone C.S.L. Sur., 1 mi. NE of Stoneburg. Loc.

W. H. Gant and Continental's No. 1 J. L. Brown, Sec. 58, E.T.R.R. Sur. Tstg.

Walter Gant's No. 1 Will Laird, R. T. Millard Sur., Abst. 470, 7 mi. W of Sunset. Drlg. 3,925 ft.

Harvey Drlg. Co. et al's No. 1 D. A. Threadgill, Sec. 10, Jack Co. Sch. Ld. Sur. A-390; 6,000-ft. test. Drlg. 6,245 ft.

Hults & Owens' No. 1 Tucker, NW cor. Sec. 2836, T.E.&L. Sur. Mach.

Tom F. Hunter's No. 1 Fatheree, E½ S. L. Gilliland Sur., 3 mi. S of Illinois Bend in north pt. of county. Loc.

W. H. Peckham's No. 1 Dr. Lawson, N. Kimbro Sur., Abst. 405. Drlg. 4,048 ft.

Sinclair Prairie's No. 1 T. H. Milam, Lot 54, A. Beason A-20 Sur.; 6,000 ft. test. Tstg. S.S.O. 5,666-77 ft.; 6⅝-in. at 5,-683 ft.; perf. csg. 5,620-28 ft.; swbd. 1 B.O.; T.D. 6,000 ft.; P.B. 5,710 ft.; W.O.C.

Sinclair Prairie Oil Co.'s No. 1 G. Whaley, SW cor. of N½ of T. R. Jackson Sur., Abst. 394; 6,000-ft. test. Drld. plug on 6⅝-in. csg. at 5,120 ft.; flwd. 20 bbl. in 20 min.; erecting storage.

Tarrant County

W. L. Cox's No. 1 N. H. Poole, 160 ft. from S and W lines of J. McDonald Sur. Loc.

Throckmorton County

Normandie Oil Corp.'s No. 1 Travis, Sec. 37, Travis Co. Sch. Ld. Drlg. 3,700 ft.

Wichita County

Consolidated Oil Co.'s No. 1 E. M. Barnes K, Sec. 11, Blk. 7, H.&T.C. Sur. 6⅝-in. csg. at 4,336 ft.; saturation from 4,336-70 ft.; D.D. to 4,395 ft.; shot with 200 qt., 4,350-95 ft.; T.D. 4,418 ft.; S.D.O.

Wilbarger County

Amerada Pet. Corp.'s No. 1 B. Goodpasture, Sec. 35, H.&T.C. Sur., Blk. 15. 6,000-ft. test. Sat. lime 4,407-20 ft.; 600 ft. oil and 150 ft. mud on 60-min. D.S.T.; set csg. 6,306 ft.; drld. plug and swbd. 10 B.O.P.H.; drlg. 6,690 ft.

O. M. Stidham & Son's No. 1 C. D. Watts, Sec. 64, H.&T.C. Sur., Blk. 15.; 6,000-ft. test. S.D.O. 3,105 ft.

Young County

Commodore Oil Co.'s No. 1 Clinton Realty Co., Sec. 2,384 ft, T.E.&L. Sur. Drlg. 3,198 ft.

H. W. Dyer's No. 1 M. G. Cheney, M. L. Terry Sur., Abst. 1261. S.D. 2,130 ft.; reprs.

K. R. March's No. 1 Ed Burton, NE cor. Blk. 99, J. A. True Sur., Abst. 1640, 4 mi. SE Graham; 4,250-ft. test. 4,500 gal. acid 3,952-4,014 ft.; 1,800 ft. O.I.H.; testing.

A. T. Strong's No. 1 Craig heirs, N. Lynch Sur. Drlg. 3,885 ft.

TEXAS PANHANDLE

Childress County

Texas Co.'s No. 1 P. B. Smith, NW NW Sec. 97, Blk. 9, H.&G.N. Sur., 7,500-ft. contract. Had salt water and air blow-out at 500 ft.; well under control; R.U. to D.D.

Cottle County

Burns et al's No. 1 Moss, Sec. 5, Forsythe Sur. S.D.O. 1,960 ft.

Dickens County

Bond Jones' No. 1 Foard, I.&G.N. Sur. S.D.O. 4,400 ft.

Hall County

Humble Oil & Ref. Co.'s No. 1 A. D. Weaver, SW NW Sec. 51, Blk 1, S.P. Sur.; 7,500-ft. test. W.O.C. 2,499 ft.

Hutchinson County

Jake Phillips' No. 1 McCloy, Sec. 101, Blk. 5-T, T.&N.O. Sur. Hole filled 3,600 ft. with oil; tstg.

Ochiltree County

James R. Macon et al's No. 1 W. R. Norris, SW SE Sec. 212, Blk. 48, H.&T.C. Sur. T.D. 6,274 ft.; test sec. at 5,000 ft.; est. 6,000,000 cu. ft. gas on D.S.T.; tstg.; bailing 6,274 ft.; csg. cmt. at 5,000 ft.; R.U. control head for testing at est. 6,000,000 cu. ft. gas; plug drilled; tstd. wtr.; S.D. 5,021 ft.

Potter County

Canadian River Gas Co.'s No. 1 City of Amarillo, in city limits just north of city. Prep. cmt. to 3,825 ft. and shoot with 140 qt. from 3,784-97 ft. last report.

Sherman County

I.T.I.O. Co.'s No. 1 S. C. Bryant, C NW¼ Sec. 369, Blk. T-1, T.&N.O. Sur. Perf. csg. from 3,975-88 ft.; shot with 60 qt.; swedging pipe after shooting 2,960 ft.

Swisher County

Krupp-Flaherty's No. 1 Kleen, Sec. 120, Blk. 10-M, B.S.&M. Sur. S.D.O. 800 ft.

California Fields

(Continued from Page 51)

Rio Bravo

Union Oil Co. completed its sixteenth producing well on the Kern County lease in Section 34-28-25 at Rio Bravo this week when No. 63-34 was brought in flowing 960 bbl. of clean 38.3-gravity oil and 1,100,000 cu. ft. of gas per day from the Rio Bravo zone with bottom of the hole at 11,478 ft. This new well, which topped the productive Rio Bravo zone at 11,193 ft. and therefore is producing from 243 ft. of formation, has a productive capacity far in excess of the recorded initial but since there is no necessity of establishing maximum potentials this practice has been discontinued in this and other flush fields where production and depth give new wells an allotment in the top brackets.

Ten Section

The Ten Section field of Kern County in the San Joaquin Valley yielded another good well this week when Shell Oil Co. completed No. 87-29-A in Section 29-30-26 flowing 1,978 bbl. of clean 32.2-gravity oil and 1,342,000 cu. ft. of gas per day from the Stevens sand with bottom of the hole at 8,220 ft. The Stevens sand in this field has been especially productive in contrast with Greeley and some other similar fields in the Valley where this zone has been found spotty and generally thin with only fair saturation.

Cole's Levee—Tupman

In the Tupman field of Kern County No. 72-32-A Kern County Land of Richfield Oil Corp. has been completed flowing 1,250 bbl. of clean 32.9-gravity oil and 2,000,000 cu. ft. of gas per day from the Stevens sand with bottom of the hole at 9,020 ft. The 680 ft. of 6⅝-in. liner which was expected to be landed on bottom froze at 8,985 ft. and this left the perforations at 8,574-8,729 ft. and at 8,770-8,985 ft. The cement job was through perforations at 8,570 ft. The freedom of production from water and large production secured indicates that the 35 ft. in the bottom of the hole below the bottom of the liner is probably also producing. Richfield Oil Corp. is running 15 strings of tools in the Cole's Levee and Tupman fields of Kern County and the company should have at least six additional wells ready for completion within the next month. No. 18-33-A Kern County Land of this company in Section 33-30-25 looks like an early abandonment as it is in gray barren sand at 9,430 ft. Top of this gray sand was logged at 9,280 ft., which means that the bit has penetrated 153 ft. of barren sand where production was expected. The showing of this well is of primary importance because a dry hole at this point would tend to indicate that the Cole's Levee and Tupman fields are separate accumulations and not one large field as some have believed.

The smallest well completed in California during the current week was No. 1 Brown of Kern Hills Oil Co. in the Kern River field as it was good for only 3 bbl. of 12.4-gravity oil cutting 5 per cent from 443 ft. This is a normal completion for this field, which is in a badly depleted condition due to age and deficient water shutoffs. Universal Consolidated Oil Co. has completed No. 1 Cattani in the Arvin field of Kern County flowing 525 bbl. of clean 28.6-gravity oil per day from an effective depth of 6,135 ft. This new well, which is located in Section 15-31-29 and is producing from 26 ft. of oil sand, was carried down to 6,168 ft. but was plugged back to the effective depth before completion.

Trico Oil & Gas Co. has completed No. 2 Newland in the Delano gas field of Kern County and this new producer showed an initial flow of 44,650,000 cu. ft. of gas daily before being shut in. Top of the productive Mya zone was logged at 2,404 ft. and the well was bottomed at 2,462 ft., which gives it a total of 58 ft. of gas sand from which to produce.

Los Angeles Basin

Southern California Petroleum Co. completed an excellent well in the southern end of the Rosecrans field of Los Angeles County this week when No. 2 Rovena in Section 19-3-13 was finished flowing 1,675 bbl. of clean 32.4-gravity oil and 650,000 cu. ft. of gas per day from the O'Dea zone with bottom of the hole at 7,774 ft. St. Anthony Oil Co. appears to have the makings of another good producer in No. 2 Gordon, and this well, which is in the pay for a penetration at present of 357 ft., should be ready for a production test within the next 2 weeks. In the Dominguez field of Los Angeles County Shell Oil Co. has completed No. 105 Reyes flowing 169 bbl. of 26.9-gravity oil cutting 27 per cent on gas lift following completion in the upper zone at 4,290 ft.

Illinois Fields

(Continued from Page 48)

McClosky Completions

Kingwood, 26 Shanafelt A . . . . NE NW NE 20-2n-2e
Pumped 160 bbl., acid, 1,949-77 ft.
Texas, 60 City of Centralia . . . . S½ SE SW 33-2n-2e
Swabbed 160 bbl., 8 hrs., acid, 2,010-14 ft.
Texas, 13 Friedrich . . . . SW NE SW 6-1n-2e
Pumped 120 bbl., acid, 2,010-25, 2,042-50 ft.; T.D. 2,090 ft.
Texas, 16 C. Friedrich . . . . SW SE SW 6-1n-2e
Pumped 210 bbl., acid, T.D. 2,090 ft.
Texas, 19 C. Friedrich . . . . SW NE SW 6-1n-2e
Pumped 210 bbl., acid, T.D. 2,090 ft.
Texas, 14 C. Friedrich . . . . SW NE NW 7-1n-2e
Pumped 201 bbl., acid, 1,992-98, 2,035-50 ft., T.D. 2,080 ft.
Texas, 8 B. Hawkins . . . . SW NE NW 8-1n-2e
Pumped 147 bbl., acid, 1,964-73, 2,000-21 ft., T.D. 2,080 ft.
Lee, 2 City of Centralia . . . . SW SW SE 4-1n-2e
Junked at 3,349 ft.

Bartelso Field—Devonian Completion

Paul Mosebach, 1 Althoff . . . . NW SW NW 9-1n-3w
Pumped 30 bbl. and 60 bbl. water, 2,435-46 ft., T.D. 2,464 ft.

Bond County—First Reports

Swan-King, 1 Dr. Brown . . . . NE SE SW 22-6n-2w
Dickerson et al, 1 Stark . . . . SW NE NE 16-5n-2w

Clark County—First Reports

Allen & Sherritt, 2 Harper . . . . SW NW SW 5-11n-14w
Bancroft et al, 1 Aetna Life . . . . NW SW SE 7-11n-14w
National Consumers, 1 Harper . . S½ SE NE 6-11n-14w

Clay County

Kingwood Oil Co.'s No. 1 Danks, NW SE NE 5-5n-5e, is fishing for drill pipe at a total depth of 2,723 ft. This well found the Cypress sand at 2,228 ft., the Paint Creek at 2,270 ft., the Benoist at 2,348 ft., the Ste. Genevieve at 2,476 ft., the Rosiclaire at 2,498 ft., and the Fredonia at 2,500 ft. It is running low and may be abandoned.

Shulman, 1 C. E. Colclasure . . . . W½ SW SW 10-3n-7e
Pumped 149 bbl. and 100 bbl. water, Cypress sand 2,594-2,620 ft., T.D. 2,955 ft., P.B. to 2,620 ft.

Coles County

Carter Oil Co.'s No. 1 S. E. Cobb, SW SE 10-13n-7e, encountered slight shows of oil at 2,301 ft. and in the Carper sand at 2,770 to 2,810 ft. The top of the Warsaw was at 2,132 ft. Present depth is 2,850 ft. Carter's No. 1 A. Seaman, an old well drilling deeper, reached 2,075 ft. and swabbed 137 bbl. in 15 hours the first day and 118 bbl. and 76 bbl. the second and third days. Tubing was run and a packer set at 2,030 ft. and the well showed no fluid on an 8-hour swabbing test. The well pumped 136 bbl. after the packer was pulled.

Carter, 1 A. Seaman . . . . SE NE SW 35-12n-7e
Pumped 102 bbl. above 2,030 ft., T.D. 2,075 ft.

Crawford County Completions

La Salle Drlg., 1 J. Wall . . . . SW NE NE 9-6n-13w
Swabbed sulfur water after acid 1,897-1,903 ft.
Snavely, 1 S. Freeman . . . . NE SE NW 4-8n-11w
Dry after 20-qt. shot Devonian 2,647-2,950 ft.

Edgar County First Report

H. Dunn, 1 Erwin . . . . NE NW NW 14-14n-14w

Edwards County Completions

S. D. Ford, 1 Marshall . . . . SW NE NE 2-1n-10e
Dry, T.D. 3,294 ft., top Glen Dean 2,610 ft., Cypress 2,810 ft., Ste. Genevieve 3,150 ft., Fredonia 3,235 ft.
Jarvis Bros., 13 A. Wick . . . . NW SW SW 18-2s-11e
Flowed 155 bbl., McClosky 3,115-25 ft., 2,000 gal. acid.
Noah & Morrison, 1 G. Wick . . . . N½ NE SW 24-2s-10e
Pumped 15 bbl. and 15 bbl. water, McClosky 3,106-11 ft., 2,500 gal. acid.
Superior, 5 Woods . . . . NE NW NW 19-2s-10e
Pumped 16 bbl. 31.6°, Waltersburg 2,348-56 ft.
Superior, 6 Woods . . . . S½ SW NW 19-2s-11e
Dry, T.D. 3,147 ft., top Ste. Genevieve 3,046 ft.
Barnes & Wickwire, 1 Broster . . . . NE NE NE 3-3s-14w
Dry 2,606 ft., P.B. to 2,600 ft., shot 7 qt., Cypress sand 2,594-2,600 ft.

Fayette County

Louden Field—Cypress Completions

Whisenant et al, 20 Lilly . . . . SW NE SW 16-8n-3e
Pumped 150 bbl., 40-qt. shot, 1,476-1,512 ft.
Vanderbalk, 1 Griffith . . . . SW SW SE 17-7n-3e
Pumped 41 bbl., 30-qt. shot, 1,509-52 ft.
Carter, 4 Mary Hoar . . . . SW NE SE 8-7n-3e
Pumped 106 bbl., 40-qt. shot, 1,451-80 ft.; T.D. 1,538 ft., P.B. to 1,490 ft.
Ohio, 8 S. W. and A. E. Schwann . . . . NE NW NW 31-6n-3e
Pumped 1 bbl. and 35 bbl. water, 1,602-14 ft., abandoned.
Texas, 7 F. Bennyhoff . . . . SW SW SE 30-6n-3e
Pumped 84 bbl. natural, 1,558-68 ft.
Texas, 6 F. Bennyhoff . . . . NW SW SE 30-6n-3e
Pumped 126 bbl., 10-qt. shot, 1,574-97 ft.
Muhlbach, 1 Peters . . . . NW NW NE 6-5n-3e
Pumped 83 bbl. and 1 bbl. water, 1,621-28 ft.
Zephyr, 9 Smith . . . . NE SW SW 31-6n-3e
Pumped 240 bbl. and show water, shot, 1,596-1,618 ft.

Paint Creek and Bethel Completions

Carter, 3 Martha Taylor . . . . NE SW SW 33-8n-3e
Pumped 138 bbl., shot, Cypress 1,462-1,515 ft., Paint Creek stray 1,535-64 ft., Bethel 1,578-93 ft., T.D.
Carter, 4 Earl Rhodes . . . . SW NW NW 26-8n-3e
Pumped 33 bbl. and 6 bbl. water, 40-qt. shot, Paint Creek stray 1,564-83 ft., Bethel 1,595-1,605 ft., T.D.
Whisenant et al, No. 19 Lilly . . . . SE NW SE 16-8n-3e
Pumped and flowed 205 bbl., Paint Creek stray 1,556-82 ft.
Carter, 3 Minnie Doty . . . . SE SW NW 2-8n-3e
Pumped 312 bbl., 30-qt. shot, 1,531-33 ft.

Hamilton County

Kingwood Oil Co.'s No. 1 Waring, NE NW NE 14-6s-6e, is drilling at 2,798 ft. It found the top of the Palestine at 2,217 ft., the Menard at 2,253 ft., Waltersburg 2,338 ft., Tar Springs 2,403 ft., Glen Dean 2,492 ft. ,and the Cypress at 2,766 ft.

Kingwood, 3 Dodd . . . . SW NE NW 6-6s-7e
Pumped 265 bbl., 20-qt. shot, Cypress 2,693-2,725 ft.
Ohio, 3 Wilson . . . . SW NW NE 6-6s-7e
Pumped 174 bbl. 13 hrs., 40-qt. shot, Cypress pays, 2,694-2,700 and 2,708-16 ft.; T.D. 2,740 ft.
Carter, 1 M. Green . . . . NE SE NW 26-6s-8e
Dry; top Hardinsburg 2,462 ft., T.D. 2,532 ft.

First Reports

Ralph Halbert, 1 Lockwood . . . . NW NW NE 23-6s-5e
Taylor Drlg., 1 Graves . . . . W½ NE SE 15-6s-6e

Jackson County First Report

F. R. Dunne et al, 1 Baum . . . . NE NE SE 12-9s-4w

Jasper County Completion

Pure, 1 C. N. Honey A . . . . W½ NW NE 17-5n-10e
Flowed 528 bbl., 1-in. tubing choke, Cypress saturation 2,442-65 ft., McClosky pays 2,785-90 and 2,792-96 ft.; T.D. 2,845 ft.

Jefferson County

Hughes Petroleum Co.'s No. 1 Self, SW SE SE 10-1s-2e, is shut down at 2,155 ft. Top of the Renault was at 2,069 ft., the Aux Vases at 2,122 ft. and the Ste. Genevieve at 2,142 ft.

Magnolia, 4 T. J. Harvey . . . . NE NE SW 22-2s-1e
Pumped 38 bbl. and 6 bbl. water, shot, Rosiclaire 2,201-12 ft.

Madison County

Corbitt and others' test near the old Collinsville field has a hole full of water in the Devonian, 1,250-80 ft., and is shut down for orders. Location is NE SE SE 7-3n-8e. There was some saturation at 1,260-63 ft. Jones & Barner's No. 1 Early, NW NW NE 30-6n-5w, reached the top of the Ste. Genevieve at 856 ft. and is drilling ahead at 1,310 ft.

Massac County

Marshall Drilling Co.'s No. 1 McGhee, NE NE NE 3-16s-5e, encountered slight shows of oil in the Devonian at 2,265-60, 2,205 and 2,316 ft. The top of the Devonian was at 2,130 ft. Present total depth is 2,335 ft.

Montgomery County

W. L. Topf's No. 1 D. Breitenbach, SE SE 13-9n-4w, reached the top of the Ste. Genevieve at 980 ft. and is drilling ahead at 1,015 ft.

C. W. Young & Brainard, 1 Youell NW NW SW 3-8n-5w
Dry at 667 ft.

First Reports

H. Randall et al, 2 D. Street . . . . N½ NE SE 31-11n-5w
Burroughs et al, 1 Kilton . . . . SE NW SE 31-11n-5w

Pike County Completion

Wooter et al, 1 Gorton . . . . W½ SW NE 35-4s-7w
Dry at 231 ft.; top Trenton 197 ft.

Randolph County Completion

Ralston & Beattie, 1 G. C. Foster . . . . NE SE 31-4s-5w
Pumped 5 bbl. and show water, 20-qt. shot, 923-41 ft.

Richland County Completions

Pure, 3 M. Heap . . . . E½ SW NW 30-5n-10e
Pumped 27 bbl. and 83 bbl. water, McClosky pay 2,852-57 ft., after acid; top Fredonia 2,850 ft., T.D. 2,910 ft.
Pure, 1 E. Holtz . . . . NW SE SW 6-4n-10e
Flowed 400 bbl., McClosky pay 2,875-82 ft., acid, T.D. 2,900 ft.

First Reports

Pure, 1 G. Hernicle . . . . W½ NW SW 32-5n-10e
Pure, 2 M. Bauman . . . . W½ NE SE 12-4n-9e
Mammoth, 1 E. Correll . . . . SW SW SE 33-4n-9e

St. Clair County Completion

C. A. Starr, 6 Brewer . . . . SW SW NE 28-1n-10w
Pumped 80 bbl. and 20 bbl. water 15 hrs., 488-538 ft.

Shelby County Completion

O. Baugher, 1 Anderson . . . . NW NE NW 36-12n-5e
Dry at 1,465 ft.

Wabash County

Hayes & Wolf's No. 1 Reed found shows of oil in the McClosky at 2,697-2,704 ft. and 2,712-18 ft., with water at 2,739-42 ft. Top St. Louis was at 2,774 ft. and total depth 2,902 ft. The well is now being plugged back for a McClosky test.

Fred Hartman, 1 Litherland . . . . SE SE NE 7-1n-12w
Dry at 1,556 ft., no Biehl sand, Jordan sand 1,538-50 ft.
Burr Lambert, 1 M. Bucholz . . . SE NW NE 9-2s-13w
Pumped 70 bbl., Cypress sand 2,409-19 ft., shot, T.D. 2,424 ft.
Continental, 1 H. Gray . . . . NW SW SW 20-2s-13w
Pumped 60 bbl., McClosky, through perf. casing at 2,828-32 ft; acid; top Ste. Genevieve 2,775 ft., T.D. 2,849 ft.

First Reports

National Pet., 1 J. Harness . . . . SW SW NE 34-2n-13w
J. W. Dutton, 1 Greiswife . . . . NE NW SW 3-1n-13w
W. E. Huff, 2 Cox . . . . SE SE NW 3-1n-13w
W. E. Huff, 1 Milligan . . . . NW NW SE 3-1n-13w
W. C. McBride, 1 Fritchie . . W½ SE SE NW 3-1n-13w
National Pet., 1 Hinderliter . E½ SE SE NW 3-1n-13w
H. W. Snowden, 1 Litherland . . . . NE NE SE 7-1n-13w
Fred Harman, 1 Howe . . . . NE NE NE 18-1n-12w
Tide Water, 1 Seller . . . . NE NE NE 34-1s-13w
Continental, 7 Alb. Gray . . . . SE NE SE 19-2s-13w
Sam Yingling et al, 1 E. Compton . SE SE SW 9-2s-13w

Washington County

Ohio Oil Co.'s No. 1 E. Buchner was dry and aban-

doned at a total depth of 3,152 ft. Tops include Glen Dean 1,145 ft., Cypress 1,318 ft., Cypress sand 1,347 ft., Benoist sand 1,524, Ste. Genevieve 1,656 ft., Fredonia 1,095 ft., St. Louis 1,770 ft., Salem 1,945 ft., Warsaw 2,284 ft., Chattanooga 3,002 ft., and Devonian 3,055 ft. Gardner & Woods' No. 1 Harre was abandoned at 1,534 ft. after finding tight formation in the Fredonia at 1,510-30 ft.

Ohio, 1 E. Buchner .....NW NE NW 9-2s-2w
Dry at 3,152 ft.
Gardner & Woods, 1 Harre .....NE NE NW 33-2s-3w
Dry at 1,534 ft.

First Reports

Magnolia, 1 C. Tiemann .....NE SW SW 23-1s-1w
Shell, 1 W. E. Brown .....SW NE SW 23-1s-1w
Magnolia, 4 Peter Kozusek.....SW NE NW 26-3s-3w

Wayne County Completions

Andy Bruner, 1 Bothwell.....NE SE NE 24-2n-7e
Flowed 35 bbl. and 18 bbl. water, McClosky 3,004-13 ft., acid, T.D. 3,082 ft.
Pure, 1 W. Hubble A.....W½ SE NW 33-2n-8e
Flowed 405 bbl., McClosky 2,982-88, 3,019-24, 3,058-61 ft., acid, T.D. 3,090 ft.
Pure, 2 W. Hubble A.....E½ SE NE 32-2n-8e
Flowed 815 bbl., McClosky 3,017-20, 3,023-25, 3,030-35 ft., acid, T.D. 3,095 ft.
Roach & Voyles, 4 Carlson A.....SW SW SE 34-1s-7e
Flowed 1,379 bbl., McClosky 3,238-44 ft., acid, T.D. 3,250 ft.
Al Stengle, 2 Hilliard Cons. .....S½ NW SE 34-1s-7e
Flowed 749 bbl., McClosky 3,271-77 ft., acid, T.D. 3,287 ft.
Carl Robinson, 1 Elliott .....SW SW SE 26-2s-8e
Flowed 384 bbl., McClosky 3,411-22 ft., acid, T.D. 3,433 ft.
J. D. Barnes, 1 Haefle .....NW NE NW 16-3s-9e
Pumped 35 bbl., McClosky 3,383-91 ft., acid, T.D. 3,396 ft.

First Reports

Pure, 1 Oderecht A .....W½ SW NW 9-1n-7e
Pure, 1 Robert Maclin .....E½ NW NW 1-1n-7e
Texas, 1 D. Davis .....W½ NW NW 10-2s-7e
H. H. Weinert, 5 McPherson .....N½ NE NW 3-2s-7e
H. H. Weinert, 1 M. Cormick .... E½ NE SW 4-2s-7e
Texas, 3 A. Poorman .....SW NE SE 31-3s-8e
Texas, 6 J. Boggs .....NE SE 8-3s-7e

White County Completions

Pace & German, 2 Hou ..... NW NW SE 9-4s-9e
Pumped 66 bbl. and 1 bbl. water, shot, Benoist 2,710-20 ft.
Magnolia, 1 J. E. Lamont .....SE SW NW 2-4s-9e
Dry at 3,600 ft.
Gulf, 2 C. C. Summers ..... NE SE NE 25-6s-8e
Pumped 75 bbl., McClosky, T.D. 2,565 ft.
Exchange, 11 Storms .....SW NE NW 14-6s-9e
Pumped 14 bbl., Waltersburg, shot 2,261-64 ft., T.D. 2,266 ft.
Eason, 2 Storms E .....NE NE SE 15-6s-9e
Flowed 70 bbl., Waltersburg, shot, 2,245-58 ft.
Al Wilson, 1 McCallister-Phillips . NE NE NW 22-6s-9e
Pumped 146 bbl., Waltersburg, 2,245-78 ft.
Exchange, 3 Angle-Storms ..... NW NW NW 23-6s-9e
Pumped 140 bbl., Waltersburg, shot, 2,248-55 ft., T.D. 2,261 ft.
Exchange-Ohio, 1 Rudolph School . NE SE SE 11-6s-9e
Pumped 150 bbl., Waltersburg, shot 2,251-54 ft.

First Reports

D & H Drlg., No. 3 F. M. Hou ..... SW SW NE 9-4s-14w
Florida Oil, 2 T. E. Boultinghouse . NE SW SE 9-4s-14w
Sun, 9 E. R. Greathouse ..... NE SE SW 33-4s-14w
Eason, 1 Rebstock .....SE SE SW 11-6s-9e
John Bowers et al, 2 Stroms ..... NE SE NE 22-6s-9e
Eason, 1 Powell .....NW NW NE 22-6s-9e
Mercer Bros., 1 E. Chapman ..... NE NE NW 14-6s-8e

OHIO

NEWARK, Ohio, July 1.—Completions in the Ohio fields showed a marked increase during the week, a total of 34 being reported. Fifteen of the tests, or 44 per cent of the total were dry. Out of the 14 gas wells, only one had an open flow of better than a million cubic feet. Five oil wells were completed, one of which is in Putnam County in northwestern Ohio.

Ashland County: Faulkner & Phelps' No. 5 H. W. Mosher, Section 22, Berea dry, total depth 610 ft. The Ohio Fuel Gas Co.'s No. 1 G. W. Egle, Section 22, dry in the Clinton, depth 2,927 ft.

Athens County: Ames Township, Orndoff Co.'s No. 2 D. L. Kasler, fraction 24, 75,000 cu. ft. of gas, open flow, second Berea at 1,371-82 ft. Berne Township, Bern Oil & Gas Co.'s No. 1 D. W. Lambert heirs, Section 18, gaged 215,000 cu. ft. of gas in the Brill sand at 1,070 ft. Two oil wells with a settled production of 10 bbl. each were reported in Rome Township. Gibson's No. 1 W. H. Morrison, Section 30, sand at 391-402 ft. McBill Oil Co.'s No. 8 H. M. Antle, Section 30, sand at 344-60 ft. York Township, Ohio Fuel Gas Co.'s No. 181 Sunday Creek Coal Co., Section 32, Berea dry, depth 1,130 ft.

Fairfield County: Lancaster City Gas Works made two Clinton sand completions, Berne Township, No. 4 J. V. Cook, Section 32, 130,000 cu. ft., open flow, sand at 2,093-2,113 ft.; Pleasant Township, No. 4 H. Hartman, Section 23, dry, depth 2,403 ft.

Guernsey County, Valley Township: Jewell Gas Co.'s No. 1 C. T. Le Page, Section 11, is a small gas well in the Berea, depth 1,304 ft.

Holmes County, Ripley Township: Ohio Fuel Gas Co.'s No. 1 R. E. Griffith, Section 34, made 220,000 cu. ft. of gas, open flow, Clinton at 3,230-53 ft.

Knox County, Howard Township: H. E. Perkins' No. 2 R. L. Jones, Lot 32, fourth quarter, gaged 80,000 cu. ft. of gas in the Clinton sand at 2,668-73 ft.

Newark field—Licking County, Newark Township: McCloy, Inc.'s No. 1 M. H. Baker, Lot 2, Skinner lots, second quarter, is good for 500,000 cu. ft. of gas, open flow, Clinton at 2,350-69 ft. Newton Township, Heisey Co.'s No. 1 Catherine Sheets, east part of first quarter, had a small show of gas in the Clinton, abandoned at 2,822 ft. Perry Township, McCloy Brothers' No. 1 Harry Coffman, Section 7, small show of oil in the Clinton, abandoned at 2,966 ft. E. H. Everett Co.'s No. 1 I. W. Mills, Section 4, dry in the Clinton, depth 2,905 ft.

Lorain County, Eaton Township: Osborn Manufacturing Co., on fee property in Lot 81, found the Clinton sand missing, abandoned at 2,586 ft. Grafton Township, Forest Oil Co.'s No. 2 Harry Barth, Lot 68, Berea dry, depth 269 ft.

Monroe County, Franklin Township: A. E. Robinson's No. 2 L. C. Stalling, Section 9, Lime sand dry, depth 1,045 ft. Sunsberry Township, Barnesville Development Co.'s No. 1 A. W. Varner, Section 28, 70,000 cu. ft. of gas in the Berea, depth 2,238 ft.

Morgan County, Marion Township: W. S. Harris' No 3 Evalyn Worthington, Lot 13, made 250,000 cu. ft. of gas, open flow, in the Brill sand at 987 ft.

Noble County: Three small Berea sand gas wells were reported. Beaver Township, Betts Peterson's No. 2 M. A. Cline, Section 3, depth 1,882 ft. Center Township, Smithberger Co.'s No. 1 C. M. Devolld, Section 25, depth 1,475 ft. Seneca Township, Mud Run Oil & Gas Co.'s No. 2 W. S. Watson, Section 23, depth 1,601 ft. Stock Township, Lumbatis Co.'s No. 1 I. H. King, abandoned at 1,660 ft.

Perry County, Clayton Township: Gas Producing Co.'s No. 1 J. M. Dumalt, Section 18, made 52 bbl. of oil the first 24 hours after shot, Clinton at 3,243-81 ft. Madison Township, Atha Co.'s No. 2 Mabel Wilkins, Section 17, had an open flow of 1,400,000 cu. ft. of gas from the Clinton sand, depth 3,080 ft. Jackson Township, Kistling Co.'s No. 1 W. T. Poling, Section 25, was a small gas well in the Berea, depth 919 ft.

Tuscarawas County, Fairfield Township: East Ohio Gas Co.'s No. 1 Reeves Manufacturing Co., Lot 7, third quarter, had a show of gas in the Red Clinton, shot failed to improve, abandoned at 5,174 ft.

Washington County, Grandview Township: Beaver & Paynter's No. 1 Mary Brown, Section 27, dry through the Injun, depth 1,905 ft. Warren Township, Burke Co.'s No. 1 Fergus O'Conner, Section 30, Berea dry, depth 2,095 ft.

In northwestern Ohio, Putnam County, Blanchard Township, Norton-Stewart Petroleum Co.'s No. 9 W. D. Williams made 20 bbl. of oil after acidization; Trenton at 1,323 ft., pay 1,355-60 ft.

Rocky Mountain Area

(Continued from Page 60)

Fergus County

Tony Co.'s No. 1, CNL NE SW Sec. 36-22n-17e. Drlg. 105 ft.
E. & M. O. & G. Co.'s No. 4, SW SE SW Sec. 34-33n-18e. Drlg. 305 ft.

Glacier County

Texas Co.'s No. 3 Bonnet, NE SE Sec. 8-32n-5w. Loc.
Texas Co.'s No. 6 State, NW SW Sec. 16-32n-5w. R.U.
Texas Co.'s No. 3 Unit 11, C W½ NW SW Sec. 11-35n-6w. Spdg. 49 ft.; (cor. loc.).
A. B. Cobb's No. 1 Teterud, NE NE NE Sec. 24-37n-5w. R.U.
Santa Rita O. & G. Co.'s No. 11 Tribal, NE cor. Sec. 16-35n-6w. R.U.
Steele Creek Prod. Co.'s No. 3 Carmen, SE SE NW Sec. 19-34n-5w. R.U.
Montana Headlight Oil Co.'s No. 6 Britton, NW SW SE Sec. 11-34n-6w. Loc.
Santa Rita O. & G. Co.'s No. 3 Govt., NE SE NW Sec. 7-32n-5w. Drlg. 1,500 ft.; Colo. 535 ft.; cmtd. 10¾-in. at 564 ft.
Glacier Prod. Co.'s No. 1 Coburn unit, CSL NW NE Sec. 9-33n-5w. Drlg. 740 ft.; Colo. 440 ft.; 10¾-in. at 470 ft.
Glacier Prod. Co.'s No. 1 Yunck unit, 125 ft. S of CNL Sec. 2-34n-5w. Cmtd. 7-in. at 2,508 ft.; W.O.C.
R. C. Tarrant's No. 1 Butler, CEL NW SE Sec. 15-34n-6w. Drlg. 1,885 ft.
R. C. Tarrant's No. 3 Hope, C NE Sec. 18-34n-5w. R.U.
Texas Co.'s No. 8 Unit 9, C NW NE Sec. 9-32n-5w. Drlg. 2,795 ft.
Glacier Prod. Co.'s No. 5 Bonnett, C NW SE Sec. 4-32n-5w. Drlg. 2,685 ft.
Cobb-Reagan's No. 4 Jackson, SW SW SE Sec. 5-32n-6w. R.U.R.

Hill County

Wm. Hanlon's No. 1 Govt., C SW NE Sec. 19-37n-15e. Spd. and S.D.

Pondera County

R. C. Tarrant has made a location for a wildcat in the Valier district approximately 6 miles south of the nearest Cut Bank producer and will make an attempt to locate the shore line along which the field to the north lies. It is approximately 3 miles to the north of three wildcats drilled by Texas Co. and a mile to the southwest of the Barmac dry hole.

R. C. Tarrant's No. 1 Lang, SE SE NW Sec. 14-31n-5w. Loc.; (first report).

Toole County

Kevin-Sunburst had three completions and five new operations.

O. A. Nepstad's No. 1 Hugi, NW SE NW Section 11-35n-3w, was completed at 1,859 ft., total depth, for 45 bbl. per day from the contact at 1,845-55 ft. after acidizing with 500 gal.

Big West Oil Co.'s No. 3 Eilingson, SW SE SW Section 14-35n-3w, pumped 25 bbl. per day at 1,740 ft., total depth, after plugging back from 1,800 ft., shooting with 90 qt., and acidizing twice with 1,000 gal.

Texas Co.'s No. 12 Bruins, SE SW SE Section 9-35n-2w, pumped 15 bbl. per day at 1,607 ft., total depth, from the contact at 1,593 ft., after acidizing with 500 gal.

Texas Co.'s No. 13 Bruins, 2,310 ft. E line, 1,320 ft. S line, Sec. 9-35n-2w. R.U.; (first report).
Coolidge & Coolidge's No. 8-A State, NW SE NW Sec. 36-36n-2w. R.U.; (first report).
Texas Pacific C. & O. Co.'s No. 11 Howling, SE SE NE Sec. 9-35n-2w. R.U.; (first report).
Morton O. & R. Co.'s No. 9 Morton, NW NW SE Sec. 13-34n-2w. Loc.; (first report).
Nepstad-Montgomery-Fargher's No. 3 Haugen-1, SW SW SE Sec. 2-35n-3w. Drlg. 160 ft.; (first report).
Coolidge & Coolidge's No. 7-A-2 State, NW SW NW Sec. 36-36n-2w. Drlg. 997 ft.
Superior Pet. Co.'s No. 13 Aronow, SE NW SW Sec. 12-35n-3w. Drlg. 1,390 ft.
Enfield Oil Co.'s No. 2 Zachor, SW NW NW Sec. 20-35n-1w. Drlg. 1,390 ft.; Sunburst dry at 1,365-75 ft.
Black Label Oil Co.'s No. 10 State, SW SE SE Sec. 16-35n-2w. T.D. 1,535 ft.; contact 1,530 ft.; S.O.; will acd.
J. H. Agen's No. 2 Goeddertz, NE NW NW Sec. 23-35n-3w. T.D. 1,747 ft. in T. contact; acd. 500 gal.; tstg.
Twin Fields Oil Co.'s No. 1-A Govt., NW cor. Sec. 28-35n-3w. T.D. 1,732 ft.; moving mch. off.
H. O. and C. D. Stock's No. 1-A Govt., SE NW SE Sec. 17-35n-2w. T.D. 1,540 ft.; rng. 5½-in.
Wm. Hanlon et al's No. 1 Merton Mortgage, C SW SE Sec. 6-37n-1w. T.D. 2,010 ft.; rep. rig.
L. P. Yealy's No. 14 Shaw, NW SW NE Sec. 35-36n-2w. Drlg. 1,517 ft.
S. V. Day's No. 1 Halter, C NE SE Sec. 17-35n-2w. T.D. 1,609 ft.; S.O.; will acd.
Prevol & Shay"s No. 6 Govt., NE NW SW Sec. 11-35n-3w. R.O.G.
Casper T. Oien's No. 9 Engemoen, NW NE NW Sec. 14-35n-2w. T.D. 1,595 ft.; contact 1,572 ft.; P.B. to 1,584 ft.; 1,000 gal.; no results; acd. again.

UTAH

Box Elder County

Utah Duchess Oil Co.'s No. 1, NW cor. Sec. 26-14n-8w. Drlg. 400 ft.

Daggett County

Mountain Fuel Supply Co.'s No. 5 Murphy, SW NE SW Sec. 15-3n-24e. Loc.
Mountain Fuel Supply Co.'s No. 1 Govt., SE NE NE Sec. 19-3n-24e. Rng. 6⅝-in. to T. Dak. at unreported depth.

Grand County

Reeder Corp.'s No. 1 State, NE NE NE Sec. 16-22s-19e. T.D. 1,060 ft.; fsg.

Summit County

Longwell Pet. Co.'s No. 1, SE SW SE Sec. 35-3n-5e. T.D. 3,300 ft. in sd.; U.R. 4¾-in. to bttm.

Gulf Coast Fields

(Continued from Page 63)

Jackson County

Lolita field: Wellington Oil Co.'s No. 2 L. Ranch Co., perforated casing 5,938-42 ft., 33 bbl., 3 hours, ⅛-in. choke.
Mauritz field: W. Stewart Boyle's No. 2-B Mauritz, 5,675 ft., dry and abandoned.
West Ranch field: Humble Oil & Refining Co.'s No. 3-B Toney, sand 5,537-55 ft., 388 bbl., ¼-in. choke. American Liberty Oil Co.'s No. 8 Ward, perforated casing 5,552-54 ft., 547 bbl., ¼-in. choke. Magnolia Petroleum Co.'s No. 3 Scheuch, perforated casing 5,760-66 ft., 182 bbl., 8 hours, ¼-in. choke. Magnolia Petroleum Co.'s No. 81-A West, perforated casing 5,761-67 ft., 176 bbl., 8 hours, ¼-in. choke. Magnolia Petroleum Co.'s No. 86-A West, perforated casing 5,761-67 ft., 176 bbl., 8 hours, ¼-in. choke. Magnolia Petroleum Co.'s No. 87-A West, perforated casing 5,757-63 ft., 204 bbl., 8 hours, ¼-in. choke. Magnolia Petroleum Co.'s No. 89-A West, perforated casing 5,563-73 ft., 171 bbl., 8 hours, ¼-in. choke. W. R. R. Oil Co.'s No. 1-2 State, perforated casing 5,732-44 ft., 210 bbl., ¼-in. choke.

Jefferson County

West Beaumont field: Stanolind Oil & Gas Co.'s No. 10 Keith-Dowlen, sand 5,371-85 ft., 129 bbl., ⅛-in. choke.

Orange County

Port Neches field: Texas Co.'s No. 11 Stark, 7,560 ft., dry and abandoned.
Orange field: Gulf Oil Corp.'s No. 5-B LaFlour, top sand 5,855 ft., total depth 5,950 ft., 589 bbl., ¼-in. choke.

Polk County

Segno field: Gulf Oil Corp.'s No. 35 Wing, sand 8,044-53 ft., 554 bbl., ¼-in. choke. H. E. Williams and others' No. 2 Hooks, 8,094 ft., 697 bbl., ¼-in. choke.

Tyler County

Joe's Lake field: Republic Production Co.'s No. 37 fee, top sand 7,686 ft., total depth 7,701 ft., 456 bbl., ¼-in. choke.

Wharton County

Withers field: Texas Co.'s No. 73-C Pierce, perforated casing 5,322-90 ft., 113 bbl., ⅛-in. choke.

Discovery of New Tinsley Sand Spurs Leasing

By GEORGE WEBER

JACKSON, Miss., July 1.—What is believed to be a new deeper oil sand discovered on the north edge of the Tinsley field, Yazoo County, last week continued the center of interest this past week as leasing to the north of the field saw added activity. While it is not definitely established as a new horizon, and its location in either the Eutaw or the Tuscaloosa formations is not yet known, it is important in bringing new interest to the field.

Pickens, Mississippi's other oil field, located in eastern Yazoo County, gained another producer during the week, making a small percentage of water. Scott and Montgomery county wildcats this week are attracting interest, and other tests hold interest throughout the state, and in southwestern and northwestern Alabama.

Tinsley Strike

The Slick-Urschel Oil Co.'s No. 7 Slick estate, located north of production in Section 36-11-3, is flowing from what is believed to be a new deeper sand section for the field. The test topped the Eutaw formation at 4,873 ft. and on coring at 5,273-87 ft., recovered 8 ft. of sand with show of oil and a good odor. Operators drilled to a total depth of 5,442 ft., ran electrical log and set a string of 6-in. casing at 5,386 ft. On the Schlumberger, the sand was established at 5,385-5,415 ft., and samples showed oil to a depth of about 5,425 ft. Tubing was run to 5,438 ft. and the well came in as the first well in the field to be reported as able to clean itself. While cleaning, it showed a tubing pressure of 370 lb., and a casing pressure of 140 lb., and shut-in pressures of 770 lb. on the tubing and 375 lb. on the casing were reported.

Recently, on a 1-hour gage, it made 90 bbl. of oil through a 22/64-in. choke with tubing pressure of 325 lb. and casing pressure of 300 lb. Until more is known regarding the new sand, it cannot be termed a new horizon. The sand termed the Stevens sand, in the Eutaw formation, consists, in the opinion of some authorities, of a group of sands, and it may be that this new deep pay lies in that group. The Hunt No. 1 Lammons, located ½ mile southeast of the Slick test, encountered a lower oil sand of the Selma formation because of offset producers in that horizon. Geologic opinion on Tinsley holds that there may be several sands, particularly in the Eutaw formation, productive of oil in various locations, and some of them may fall into the Stevens group. The Perry sand, named for Union Producing Co.'s No. 4 Perry, a producing section above the Stevens, seems apart from that group, and is found to be fairly continuous north of the main fault, although it will not produce in all wells which encountered it. Whether or not the Slick well is producing from a new horizon, it will accelerate exploration to the north of Tinsley.

MISSISSIPPI COMPLETIONS

Wildcat—LeFlore County

Exchange Oil Co.'s No. 1 Wildwood, SE SE NE Section 6-20n-1e, dry and abandoned, total depth 5,312 ft.

Wildcat—Madison County

Ralph A. Johnston's No. 1 F. H. Ray, C SE SW Section 6-8n-3e, dry and abandoned, total depth 7,409 ft.

Pickens—Yazoo County

Exchange Oil Co.'s No. 3 Wilburn, SW NE NE Section 31-12n-3e, 628 bbl. oil, 6 bbl. salt water, open 2½-in. tubing, Wilburn sand 4,863-69 ft., total depth 4,869 ft.

Tinsley—Yazoo County

Slick-Urschel Oil Co.'s No. 7 Slick estate, 420 ft. north, 660 ft. east, SW cor. Section 36-11-3, 2,160 bbl., 22/64-in. choke, tubing pressure 325 lb., casing pressure 300 lb., total depth 5,442 ft., producing sand 5,385-5,415 ft. Union Producing Co.'s No. 11 Stevens, 1,040 ft. SW cor. Section 12-10-3, no gage, oil sand 4,844-50 ft., total depth 4,950 ft.

ALABAMA COMPLETIONS

Wildcat—Choctaw County

Union Producing Co.'s No. 1 McCorvey, SE cor. SW SW Section 20-9n-2w, old well drilled deeper, old total depth 9,622 ft., drilled in sidetracked hole to 5,558 ft., abandoned.

New Tests

A wildcat is to be spudded before September 19 for Anthony McCauley in Townships 15 and 16n, Ranges 17 and 18e, Noxubee County. This will be the county's second wildcat test and the first since the current Mississippi activity began last summer. In Madison County, Peterson Petroleum will begin a test by July 20 for Dan Johnston in Section 16-10n-2e. Attala County is due another test soon by the Crosby Drilling Co. of Illinois, who are expected to announce a location on the Proctor and Jones block in Township 13n-5e shortly. Still another Attala County test is planned by F. R. Jackson northeast of Kosciusko. In Holmes County new operators have taken over Lionel Hawkins' No. 1 Humphrey, now shut down, and may deepen the test.

Leasing

Leasing continued quiet with comparison to that of several weeks ago, and interest is extending eastward into Alabama, where Humble Oil & Refining Co. is taking large blocks in Washington and Mobile counties. Geophysical activity continues strong, with about 68 crews shooting in Mississippi and six in Alabama.

MISSISSIPPI

Attala County

Pioneer Oil Co.'s No. 1 Weeks, SW SW SW Sec. 29-15n-6e. Tent. loc.

Clarke County

Ark.-Miss. Oil Co.'s No. 1 Long Bell, C SW NE Sec. 35-3n-17e. Set 10¾-in. csg. 2,194 ft.; drlg. 5,955 ft.; no shows.

Hinds County

Harvey Robinson and J. P. Frame's No. 1 Alford, SW SE Sec. 18-6n-1e. Set 10¾-in. csg. 750 ft.; D.S. stuck 3,094 ft.; lubricating.

Holmes County

L. A. Hawkins' No. 1 B. W. Humphrey, 1,980 ft. S, 330 ft. W NE cor. Sec. 33-13n-2e. S.D. 1,600 ft.

Itawamba County

G. C. Grasty et al's No. 1 Ky. Lbr. Co., 1,320 ft. E, 660 ft. S, C Sec. 7-10s-10e. Twisted off D.S.; skd. 24 ft. S and spd.; set 10¾-in. csg. 170 ft.; S.O. 1,500 ft.; T. Trenton L. 1,600 ft.; tstd. sulf. wtr. 2,793-97 ft.; ran csg. to 2,795 ft.

(Continued on Page 83)

McGREGOR

12 Different Types of Working Barrels

OUR aim is to satisfy our customers by supplying them with a complete line of equipment for pumping wells. Our line includes:

Brass, Steel and Cast Iron Working Barrels
New "MAC" Plunger Barrel
Working, Standing and Drop Valves
Balls and Seats, etc.

Send for Booklet

McGREGOR WORKING BARREL COMPANY
Bradford, Pa., U.S.A.

Canadian Fields

By VICTOR LAURISTON

CHATHAM, Ont., June 29.—Effective June 22, the Alberta Conservation Board increased the aggregate allowable of Turner Valley crude producers from 18,000 to 21,000 bbl. a day, or an average daily production per well from 175 to 189 bbl.

Under the new order, Arrow Royalties' No. 1, in West Central Turner Valley, is the largest producer, with 491 bbl. a day. New completions with permanent allowables include Calmont-Northwest's No. 1, in West Central Turner Valley, with 329 bbl., and Northwest-Hudson's Bay's No. 3, in the southwest area, with 384 bbl.

Turner Valley Completions

Calmont-Northwest's No. 1, LSD 3, Section 18-19-2w5, got the Madison lime at 7,172 ft. and finished at 7,609 ft., indicating that the producing area may extend considerably farther west before it reaches the water line. Davies Petroleums' No. 5, LSD 10, same section, finished at 7,391 ft. after getting the Madison at 6,942 ft., has been given temporary allowable of 150 bbl.

In Section 7-19-2w5 Royalite Oil Co.'s No. 48, LSD 10, finished at 7,533 ft., proved an unexpectedly large producer, making around 1,800 bbl. a day on 1-in. choke after acidizing. With allowable of 463 bbl., it is the fourth largest well in the field. Kamalta Oils' No. 1, LSD 1, Section 6-19-2w5, finished at 8,128 ft., has been given temporary allowable of 150 bbl.

In Section 32-18-2w5 Royal Canadian Oil Co.'s No. 4, LSD 12, finished at 8,089 ft., flowed at the rate of about 1,440 bbl. a day on 1-in. choke after acidizing, and has been given temporary allowable of 300 bbl.

In Section 20-18-2w5 York Oils' No. 3, LSD 3, finished at 8,024 ft., has been given temporary allowable of 289 bbl. Royalite Oil Co.'s' No. 50, LSD 7, Section 17-18-2w5, finished at 7,790 ft., with 230-bbl. temporary allowable.

Tests in the Lime

In Section 29-18-2w5 Commoil's No. 3, LSD 13, is below 8,226 ft. after getting the Madison at 8,177 ft. and cementing production string 17 ft. in the lime.

In Section 15-20-3w5, North Turner Valley, Anglo-Phillips' No. 1, LSD 14, bottoming at 9,058 ft., cemented back to shut off water encountered in the lower lime and is testing the upper porous zone.

In Section 27-20-3w5 Foothills Oil & Gas Co.'s No. 6, LSD 5, finished in the black lime at 8,140 ft., is acidizing and testing.

In Section 34-20-3w5 Alberta Oil Incomes' No. 1, LSD 4, finished in the black lime below 6,846 ft. and is acidizing and testing. Coring of the upper porous horizon was unsuccessful and no drill-stem test was made but considerable porosity was indicated in both upper and lower zones. This, the most northerly test in the field, logged much higher than most of the recent crude producers and results will have a considerable bearing on further drilling north of the proven North Turner Valley area.

In Section 5-19-2w5, West Central field, Royalite Oil Co. and Calgary & Edmonton Corp.'s No. 51, LSD 13, finished at 7,413 ft., some 449 ft. in the Madison, and is acidizing and testing.

In Section 32-18-2w5 Pacific Petroleums' No. 4, LSD 3, is in the Blairmore formation below 7,002 ft. and getting close to the Home sands.

In Section 7-19-2w5 Pacific Petroleums' No. 5, LSD 6, is in the Blairmore formation below 6,887 ft.

In Section 4-21-3w5 Alberta Oil Incomes' No. 2, LSD 4, is in the lower Blairmore formation below 6,765 ft.

Tests in the Foothills

On the Brazeau structure west of Edmonton, Home Oil Co.'s No. 1, LSD 16, Section 7-43-17w5, is in the Fernie shales below 8,618 ft. and getting close to the Madison limestone.

In the northern Clearwater area Ram River Oils' No. 2, Section 1-37-11w5, is resuming from 254 ft. after laying 1,800 ft. of 2-in. line for water supply. Test is logging about 200 ft. higher than Altoba's No. 1 on the southern part of the structure, which encountered both gas and oil.

On the Mill Creek structure west of Pincher Creek, Alliance Royalties' No. 1, LSD 14, Section 11-6-2w5, is in the Blairmore formation below 3,696 ft., with samples from around 3,460 ft. showing good oil saturation. Lime indications have been encountered, and the Madison is expected between 4,000 and 4,500 ft.

Steveville Field

In the Steveville field, east of Calgary, Standard of British Columbia's No. 1 Princess, LSD 13, Section 22-20-12w4, bottoming in the Devonian limestone at 6,155 ft., is gun perforating and testing. Testing for crude is continuing in horizons above 4,213 ft.

Vermilion Field

In the Battleview-Vermilion area, East Central Alberta, Franco-Battleview's No. 3, LSD 13, Section 20-48-5w4, drilled into a sand at 1,757 ft. A 4-hour bailing test yielded 15 bbl. an hour with the oil column remaining stationary, 150 ft. below the top of the hole. The oil has been temporarily shut off and test is drilling below 2,000 ft. for a deep test. A gas flow, estimated 5,000,000 cu. ft., was encountered above the oil sand between 1,610 and 1,700 ft.

In Section 20-50-5w5 Battleview's No. 2, LSD 13, bottoming at 1,842 ft., is on the pump, making around 124 bbl. a day. Location is about 6 miles southeast of Vermilion, and about 10 miles northwest of No. 3, indicating a large poten-

(Continued on Page 87)

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1940 High	1940 Low	Week ended June 29 High	Week ended June 29 Low	Week ended June 29 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1939	Com. sh. earn. 1939	Com. sh. earn. 1938	1939 High	1939 Low	1938 High	1938 Low
58½	38½	46¾	43½	46¾	Amerada Corp.	788,675	N.P.	50cQ	4-30-40	$2.00	$1.56	$2.07	74½	50	78	55
27⅛	18¼	21¾	20⅝	21⅜	Atlantic Refining	2,663,999	$25	25cQ	6-15-40	1.00	1.66	1.40	24¾	18⅛	27⅜	17¾
16⅝	8½	10	9⅝	9⅝	Barber Asphalt Co.	390,223	$10	25c	5-21-40	.25	1.39	—.85	21	10¼	23¾	12⅛
13⅜	7⅛	8¾	7⅝	8¼	Barnsdall Oil Co.	2,558,779	$5	15c	6-8-40	.90	.76	1.26	19½	11⅛	21⅜	10⅛
8⅛	5½	6½	6⅛	6⅜	Consolidated Oil Corp.	13,751,726	N.P.	20cQ	8-15-40	.80	.55	.55	9⅞	6½	10¾	7
25	16⅛	18	17⅛	17⅝	Continental Oil of Delaware	4,682,572	$5	25cQ	3-25-40	1.00	1.35	1.10	31½	19⅞	35⅜	21¼
6⅞	3⅜	4	3⅞	3⅞	Houston Oil	1,098,618	$25	.....	10-17-30	....	.43	.83	9⅜	4½	9¾	5
14⅜	9	9¾	9	9	Lion Oil Refining	435,815	N.P.	25cQ	4-20-40	1.00	1.50	2.09	18⅛	10	25⅛	15⅝
17⅜	11½	14	13	13	Mid-Continent Petroleum	1,857,912	$10	40c	6-1-40	.60	1.42	.56	18	11⅛	22⅝	12¼
11	7½	7⅝	7½	7⅝	Mission Corporation	1,378,645	$10	40c	12-15-39	.65	.87	1.04	14⅞	8¾	17¾	10⅝
9¾	4⅝	6¼	5¾	6	National Supply	1,155,517	$10	....	12-22-37	....	—.87	—.79	15½	5⅝	23	12½
8¾	5⅜	6¼	5⅞	6	Ohio Oil Co.	6,563,377	N.P.	20c	6-15-40	....	—.10	.25	10½	6	14⅞	8⅞
8¼	5¾	5¾	5¾	5¾	Pacific Western Oil	1,000,000	N.P.	40c	12-19-39	.40	.81	1.22	11⅞	7	15⅞	10¼
10½	6¾	8⅝	8⅛	8⅛	Pan American Pet. Trans.	4,702,945	$5	....	12-31-37	....	1.10	.08	8¾	5	9¼	6¼
41¾	27⅛	33	31⅛	31¼	Phillips Petroleum	4,449,052	N.P.	50cQ	6-1-40	2.00	2.21	2.03	46½	31¼	44⅜	27¼
22¾	15	16	16	16	Plymouth Oil Co.	1,038,633	$5	35cQ	3-30-40	§1.40	2.38	2.59	24	17⅛	25⅝	15
11½	7	7⅞	7¼	7½	Pure Oil Co.	3,982,031	N.P.	25c	12-20-39	.25	1.11	.38	11¾	6⅛	13½	8¼
8⅜	5⅞	7⅝	7⅛	7½	Richfield Oil Corp.	4,010,000	N.P.	50c	12-18-39	.50	.65	.51	10¼	6⅝	9⅜	5
20	11	13	13	13	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	6-15-40	1.00	1.40	1.52	24⅜	15½	27½	15½
13⅛	7⅝	8½	8	8⅛	Shell Union Oil	13,070,625	N.P.	25c	12-20-39	.50	.77	.72	17¼	9⅞	18⅝	10
23¼	12¼	14	13	13⅜	Skelly Oil	995,349	$15	25c	1-30-40	.75	1.99	2.27	29½	15½	34⅜	18½
12½	7⅛	9	8⅛	8¼	Socony-Vacuum	31,206,071	$15	25cSA	3-15-40	.50	1.10	1.29	15⅛	10¼	16⅜	10⅜
26⅛	17⅜	19¼	18	18	Standard Oil of California	13,003,953	N.P.	25cQ	3-15-40	1.10	1.38	2.22	33⅝	24¼	34⅞	25⅛
29	20¾	23	22⅛	22⅝	Standard Oil (Indiana)	15,272,020	$25	25c	6-15-40	1.25	2.23	1.82	30	22¾	35½	24¾
46½	29⅞	34	32⅛	33	Standard Oil of New Jersey	27,280,998	$25	1.00†	6-15-40	1.25	3.26	2.86	53½	38	58⅜	39¾
65⅞	47	51	49⅞	51	Sun Oil	2,434,863	N.P.	25c*	6-15-40	1.00	2.74	1.07	66	45¾	65½	45
2½	1¼	1½	1⅜	1⅜	Superior Oil Corp.	1,388,979	$1	10c	12-28-38	....	.04	.24	3⅝	1¾	4¼	1¾
47⅝	33	39	36⅜	38⅜	Texas Corp.	10,876,139	$25	50cQ	4-1-40	2.00	3.02	2.13	50¾	32½	49⅝	32⅝
4¼	2½	3	2¾	2¾	Texas Gulf Producing Co.	888,146	N.P.	10c	6-15-40	.20	.69	.86	5¾	3¼	5⅞	2⅝
8⅝	5½	6	6	6	Texas Pacific Coal & Oil	888,236	$10	10c	6-1-40	.40	1.00	1.16	11⅜	7	12½	7
12	8¾	9½	9	9	Tide Water Associated	6,371,827	$10	25c	6-1-40	.80	1.05	1.28	14¼	9½	15¾	10⅛
17½	12	12¾	12½	12⅝	Union Oil Co. of California	4,666,270	$25	25c	5-10-40	1.05	1.25	1.47	19¾	15⅛	22½	17⅛
29⅞	22¾	25¼	24⅛	25	Union Tank Car Co.	1,177,381	N.P.	45c	6-1-40	1.30	2.07	1.16	24¼	20⅛	23½	20
3⅝	1⅞	2	1⅞	2	Wilcox Oil & Gas	470,768	$5	10c	2-15-40	...	.77	.52	4¼	2⅜	3½	1⅝

*Also 5 per cent in stock. †Includes extras. ‡Also 2 per cent in stock. §Also 4 per cent in stock. ‖Also 2½ per cent in stock. ¶Also 1⅛ per cent in stock. —Deficit.

New York Curb Exchange

1940 High	1940 Low	Week ended June 29 High	Week ended June 29 Low	Week ended June 29 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1939	Com. sh. earn. 1939	Com. sh. earn. 1938	1939 High	1939 Low	1938 High	1938 Low
10¾	5	6¼	6	6	American Republics Corp.	1,308,049	$10	10c	7-11-38	....	$0.14	—.22	11¾	5½	11¾	5
3¼	1⅜	2	1¾	2	Bridgeport Machine Co.	263,700	N.P.	$1.25	12-30-37	....	—.95	—.14	7¼	2½	10¼	4⅞
43	28	..	..	..	Buckeye Pipe Line Co.	200,000	$50	$1	6-15-40	$2.50	3.13	2.36	34¾	26½	39	22½
117	95	105	105	105	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	6-24-40	6.00	7.87	5.32	130	108⅝	128	97
6¾	4	5¾	4¾	5⅛	Cities Service (new)	3,703,978	$10	....	6-1-32	....	.68	.23	9¼	4¼	11	5⅛
2⅛	1⅛	1½	1¼	1¼	Cosden Petroleum	465,332	$1	....	.....	....	....	...	2¼	½	2⅝	⅞
24¼	13	16⅞	13¼	14¼	Creole Petroleum	6,974,356	$5	50cSA†	6-15-40	1.00	1.38	1.64	28	16¾	27½	17½
4⅜	2⅞	3⅛	3	3	Darby Petroleum	351,390	$5	25cSA	1-15-39	.25	.03	.69	7⅛	3⅝	10¼	5½
2	1¼	..	..	..	Derby Oil & Refining	263,162	N.P.	....	.....	....	—.37	—.91	2⅝	1½	3½	1½
31	23½	..	..	..	Eureka Pipe Line	50,000	$50	75c	5-1-40	2.00	.63	—.37	23	15⅛	31	16
39⅞	25⅛	29½	25½	27½	Gulf Oil Corp.	9,076,202	$25	25cQ	7-1-40	2.00	1.69	1.43	45⅛	29¼	46⅞	33
68	47⅛	54¼	52¾	53	Humble Oil & Refining	8,987,840	N.P.	62½c	7-1-40	2.00	3.33	3.98	71	52½	72⅝	56
12⅜	5½	6	5½	5⅝	Imperial Oil of Canada	26,965,078	N.P.	37½c†	6-1-40	1.00	.71	.96	17	11⅜	19½	14⅛
7⅝	5⅜	6½	6½	6½	Indiana Pipe Line	300,000	$7.50	10c	5-15-40	.50	.33	.47	7¼	5½	9⅜	6
19¾	8¼	9¼	8¼	8½	International Petroleum	14,324,088	N.P.	75c	6-1-40	1.75	1.19	1.98	27½	17	31¼	21
2¾	2	1⅝	1⅝	1⅝	Kirby Petroleum Co.	500,000	$1	10c	4-15-38	...	.06	.14	3¾	2⅛	5	2⅛
10¾	7⅝	9	8½	9	Lone Star Gas	5,518,347	N.P.	20c	4-22-40	.70	.98	.88	10½	7⅛	10⅜	6⅝
6¼	3¾	4¼	4¼	4¼	Louisiana Land & Exp.	2,966,762	$1	10c	6-15-40	.35	.22	.45	7¾	4	9⅜	6½
17	14½	..	..	..	Margay Oil Corp.	149,943	N.P.	25cQ	7-10-40	1.00	1.52	2.28	17	14½	24	16
8½	6½	6⅝	6⅝	6⅝	Midwest Oil Co.	998,474	$10	45c	6-15-40	.90	.99	.93	8¾	6⅝	9¾	6⅝
6¼	4⅞	5⅛	5	5⅛	Mountain Producers	1,593,584	$10	30cSA	6-15-40	.60	.70	.62	6	4⅞	5⅝	4½
13⅛	10	11¼	10¾	11¼	National Fuel Gas	3,810,183	N.P.	25cQ	4-15-40	1.00	.95	.84	14	11¼	14⅝	11½
12½	8¾	10	9⅞	10	National Transit	509,000	$12.50	50c	6-15-40	.85	.91	.88	9½	7¼	9¼	6½
1¼	1	..	..	..	New Mexico and Arizona	1,000,000	$1	1c	12-1-37	....	.02	.02	1⅜	1	2⅝	1½
7¾	5¾	..	..	..	New York Transit	100,000	$5	25c	4-15-40	.40	.88	.16	6	4	4½	3½
9⅞	6	..	..	..	Northern Pipe Line	120,000	$10	40c	6-1-40	.30	.31	.24	7	4½	6	4
5½	2½	3	2¾	2¾	Pantepec Oil	2,856,872	$1	....	.....	....	....	....	7⅝	4	7¾	3½
3¼	1½	1⅝	1½	1⅝	Root Petroleum Co.	336,045	$1	25c	2-1-37	....	.70	.17	5	1¼	4½	1⅝
2½	1½	1½	1½	1½	Ryan Consolidated	298,931	N.P.	....	.....	...	.16	.29	3	1⅞	4	2⅛
11¾	4⅞	..	..	..	Southern Pipe Line	100,000	$10	15c	3-1-40	.30	.25	—.27	4⅞	3½	5⅝	3¼
44	28	32⅜	32	32⅛	South Penn Oil	1,000,000	$25	37½c	6-28-40	3.00	2.84	1.44	40½	26¾	39	28¾
35	22	7½	7½	7½	Southwest Penna. Pipe Lines	35,000	$50	50c	7-1-40	2.00	2.06	—.41	23	18	22¼	16½
20⅞	16½	18¾	17¾	17¾	Standard Oil of Kentucky	2,604,790	$10	25c	6-15-40	1.30	1.53	1.45	20⅛	17¼	18¾	15
41¾	26¼	31⅞	31½	31⅝	Standard Oil of Ohio	753,740	$25	25c	6-15-40	1.50	6.64	1.81	32¾	17	22¾	16¼
2	1⅜	1⅝	1½	1½	Sunray Oil	1,975,876	$1	5c	5-1-40	.10	.25	.23	2¾	1⅜	3¼	2
2¾	2	2¼	2¼	2¼	Texon Oil & Land	936,024	$2	10c	3-29-40	.10	.49	.56	4	2⅝	5¼	3½
3⅝	2	2¼	2¼	2¼	Transwestern Oil Co.	750,000	$10	....	.....	....	—1.42	—.12	6	2½	7⅝	4¼
2⅛	1⅛	1⅝	1⅛	1⅜	United Gas Corp.	7,818,959	$1	....	.....	....	—.55	—.51	3⅜	1½	5¼	2⅝

†Includes extras. —Deficit.

Personal Paragraphs

PAUL M. GREGG

PAUL M. GREGG, vice president and counsel for Union Oil Co., announced his retirement from the company, effective June 30. In retiring from active business, in accordance with Union Oil's retirement policy, Mr. Gregg also relinquished his directorship in the company. Well known among the Pacific Coast legal fraternity for his active participation in the legal aspects of the petroleum industry, Mr. Gregg first began his association with the company as a special representative at San Luis Obispo in 1904. He was retained as general counsel for the company in 1921, and appointed a vice president in 1931. L. A. GIBBONS, formerly acting as assistant general counsel, will assume the duties and responsibilities of general counsel as of July 1.

JOE T. KING, president of the Kingwood Oil Co., one of the more active independents in the Illinois fields, has returned to the company's headquarters at Effingham, Ill., from a business trip to New York City.

M. O. BORING, superintendent for the Gulf Oil Corp., Fort Worth, Tex., and PERCY BOSWORTH, Odessa, Tex., head of the Bosworth Drilling Co., landed one of the prize catches of the year in an 84-lb. catfish at Devils River near San Angelo, Tex.

FRANK GOUIN, geologist and independent operator of Duncan, Okla., and J. T. RICHARDS, district geologist for Gulf Oil Corp. at Oklahoma City, Okla., are two Oklahomans who have yielded to the lure of the lakes and fishing waters in Wisconsin and Minnesota, spending their 1940 vacations there.

THOMAS H. ROGERS, usually a solemn scientist in the research laboratories of the Standard Oil Co. (Indiana) at East Chicago, Ind., has returned from the Atlantic City meeting of the D-2 committee of the A.S.T.M. with more of the cheerleader atmosphere in his manners. For in Atlantic City he was honor guest of the A.S.T.M. and he had previously been honored by chemists and industrialists as a "Modern Pioneer" because of his many patent contributions. In his younger days he was also a cheer leader.

FRED V. GORDON, independent operator, Los Angeles; CHRISTION VRANG, geologist, Los Angeles; H. H. ADAMS, Abilene, Tex., and FRED O. FREEMAN, independent operator, Wewoka, Okla., composed a party which visited several points in Oklahoma and Texas last week.

DONALD J. McNEIL, formerly district geologist for Shell Oil Co., Inc., at Tulsa, has accepted a position as senior geologist for McColl-Frontenac Oil Co., a subsidiary of Texas Co., with headquarters in Calgary, Alberta, Canada. Mr. McNeil, a Canadian by birth, formerly was assistant district geologist for Shell at Wichita Falls, Tex. His duties as geologist of the Oklahoma district have been taken over by G. B. HARDISON, formerly district geologist for the company at Wichita Falls.

HOWARD FELT, secretary for Warren Petroleum Corp., has returned to his Tulsa home after he and his family spent several days in Franklin, Pa., with Mr. Felt's parents, who celebrated their golden wedding anniversary.

H. T. GALEY, in charge of the London office of the Gulf Exploration Co. (Great Britain); T. H. WALLACE, in charge of drilling operations; J. C. DUGAS, H. H. GILBREATH and M. J. SPARKS, JR., drillers, were among passengers returning from England on the S.S. Washington last week.

DR. GUSTAV EGLOFF, research director for the Universal Oil Products Co. and active in petroleum technical societies, received additional recognition for his work earlier this month when the Armour Institute conferred upon him the degree of doctor of science. One month ago he received the highest medal award of the American Institute of Chemists.

F. J. SWINDELL, assistant manager of the Mason City, Iowa, sales division of Standard Oil Co. of Indiana, was promoted to manager at Mankato, Minn., July 1, to succeed H. H. HATHAWAY, who was killed in an automobile accident at Dakota, Minn., in June. WARD B. EGBERT, sales promoter-reseller at Kansas City, Mo., will be promoted to assistant manager at Mason City. Mr. Swindell joined Standard in 1921, was promoted to assistant manager at Quincy, Ill., and transferred to the same position at Mason City.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Chief interest in Central West operations centered in Illinois fields, where completion of a 150-bbl. well in the Plymouth pool, McDonough County, and a gas discovery in Macoupin County caused some excitement. Activity also was reported in Crawford and Lawrence counties.

Germany's source of petrol supply is puzzling experts of the Allies and oil statisticians. Supposedly bottled up and unable to get oil from America, yet Germany seemingly has enough petrol for her submarines, airplanes, and automobiles used in military operations.

20 YEARS AGO

The Kansas sector of the Forest City basin attracted attention when a showing of oil was found at 1,500 ft. in a wildcat in Section 19-3-11e, Nemaha County, some 100 miles from production. It later was abandoned.

Roy Johnson, Ardmore, Okla., operator, working for an oil tariff, urged a delegation of Oklahoma oil men to visit Washington and place the tariff problems before President Harding in a personal conference.

10 YEARS AGO

Evidence to prove that the proposed merger of Standard Oil Co. of New York and Vacuum Oil Co. would not create a monopoly, because of changed competitive conditions in the industry, was presented in a federal court hearing in New York where the federal Government's suit to prevent the merger was heard.

Announcement of Prairie Oil & Gas Co. that it would reduce crude purchases 25 per cent and total runs to about 40,000 bbl. daily in Kansas, Oklahoma, and Texas was received with serious misgivings by producers who feared other big buyers might follow suit. A decline in refinery demand was given as the cause of the Prairie's action.

J. C. POOLE, district geologist for Barnsdall Oil Co. at Corpus Christi, Tex., has resigned to go into consulting work, and has opened offices at Corpus Christi.

JOHN ROBERTS, with the conservation division of the Kansas Corporation Commission, has taken over the duties temporarily of DWIGHT LILLY, field test supervisor at Great Bend, Ind.

JIM TATUM, geologist for the Plymouth Oil Co., at Sinton, Tex., discussed the oil industry in Mexico before the weekly meeting of the South Texas Geological Society at Corpus Christi the past week.

GEORGE H. EDGERTON, of Rio Grande City, Tex.; BRUCE S. WEAVER, of Dona, Tex., and J. J. SANDERS, of Corpus Christi, have joined the engineering department of the Texas Railroad Commission at Corpus Christi.

C. C. MONRAD, professor of chemical engineering at Carnegie Institute of Technology, has been appointed full-time technical assistant to DR. R. E. WILSON, consultant on petroleum to the National Defense Advisory Commission. He was formerly connected with the laboratories of the Standard Oil Co. (Indiana).

A. E. PARKER, president of the Texaco Club composed of Texas Co. employes in the Fort Worth, Tex., office, organized and sponsored through the club a barbecue and golf tournament at the Meadowbrook Club in Fort Worth last week. JUDGE GARRETT, attorney for the company, won low score in golf.

PAUL FLY, chief geologist for W. R. Davis, Inc., Houston, Tex., was a business visitor to the company's offices at New York last week.

F. L. DUNN, JR., Tulsa, formerly in the West Texas branch of Lee Drilling in Midland, Tex., has been transferred to the company's new branch office located in Fort Worth, Tex.

W. J. MacINTYRE, manager of the southern division with Arkansas Fuel Oil Co., at Shreveport, La., has been elected president of the Shreveport Lions Club for the coming year.

D. W. HOVEY, vice president and general manager of the Republic Oil & Refining Co., Houston, Tex., is visiting in Pennsylvania on a business and vacation trip.

HENRY WADE, consulting engineer, presented an important paper on liquefied petroleum gas at the first annual Pacific Coast Liquefied Petroleum Gas Exposition held in Santa Barbara, Calif., June 27 and 28.

MURRAY WELLS, geologist for Indian Territory Illuminating Oil Co., has returned to the Falls City, Neb., area, where his company is starting a wildcat test, which he will watch.

JOE A. CLARKE, Albany, Tex., president of the West Central Texas Oil & Gas Association, presided in Albany last Friday at the formal dedication of a large monument plaque commemorating the discovery of commercial oil production in West Texas. The plaque, presented to Texas Co., which drilled the discovery well, has been erected on a miniature derrick on the Shackelford County courthouse lawn at Albany.

He Has Done It Himself

There's nothing academic about J. L. Hanna's knowledge of the refining business. When he recently was chosen a director of the Standard Oil Co. of California he had the satisfaction of knowing it was because there was no detail of plant operation with which he was not familiar. He had done it himself. His entire life in the oil business, covering more than 30 years, has been spent in the manufacturing department, all but two with the Standard of California.

J. L. HANNA

The first job, in January 1909, was in the Eclipse Works of the Atlantic Refining Co., Franklin, Pa. In 1911 young Hanna went to work as a still fireman at Standard of California's El Segundo plant in southern California. Three years later he was sent to the Seguro refinery in Bakersfield, Kern County, as foreman, and before long he was advanced to superintendent.

Mr. Hanna remained at the Seguro refinery until January 1928 when he was made chairman of the company's standardization committee, in which capacity he maintained headquarters at the Richmond refinery, in the San Francisco Bay region. Four months later he was appointed vice chairman of the committee, and he shifted his office to the company's headquarters in San Francisco. Four years later he was made general manager of the manufacturing department. Mr. and Mrs. Hanna have one son, and they reside in San Francisco.

LEE FRIEDMAN and JOE WEILER have joined the engineering staff of the Texas Railroad Commission at the Gulf Coast division offices at Houston, Tex.

D. T. McNEIL, independent marketer and export broker of Houston, Tex., left last week on an extended vacation trip, most of which will be spent on a long cruise.

W. M. O'HALEY and E. B. STONELEY, members of the Caribbean Petroleum Co.'s staff at Maracaibo, Venezuela, have concluded their Pacific Coast vacation and will return to Maracaibo within the next 10 days.

T. M. MARTIN, vice president of Lion Oil Refining Co., El Dorado, Ark., and COL. W. C. OFEARRAL, San Antonio, Tex., addressed members of the Seventh Congressional Oil Dealers Association in Camden, Ark., recently.

C. A. HILL, of Dallas, Tex., is the Magnolia Petroleum Co.'s new superintendent in the Wewoka, Okla., district, which was recently enlarged to include the major portion of the greater Seminole field. He succeeds O. H. STOUT, who has been transferred to Lovington, N. M.

W. C. KINKEL, district geologist; HUGH STOREY and W. G. CLARKSON, both of the geological staff; and CHARLES. A HITT, district land man, will all be moved from San Angelo, Tex., to Midland, Tex., by the Ohio Oil Co. under a plan to consolidate the West Texas division. A. L. (JAKE) HENDERSON, production superintendent for West Texas and New Mexico, will be transferred to Midland from the closing branch office at Iraan.

C. A. (CHET) EVERTS, oil operator and drilling contractor of Dallas, Tex., last week announced that he had withdrawn as a candidate for the Texas Railroad Commission.

DR. ROBERT J. WATSON, geologist and geophysicist with Carter Oil Co., returned to Tulsa with his family after a short stay at Cairo, Egypt. Due to the war Dr. Watson's assignment in Africa was interrupted. He reached the United States on the S.S. Excamber, one of the last ships leaving those waters for America.

C. O. STARK, vice president, land and geological department, Phillips Petroleum Co., has announced the following changes in the geological department: H. W. O'KEEFFE has been appointed assistant chief geologist. T. E. WEIRICH has been appointed chief subsurface geologist. R. G. MOSS, formerly divisional geologist at Evansville, Ind., will be transferred to Bartlesville, Okla., to conduct pool studies. He will also act as contact man for the geological department, and will furnish all information requested by other departments on producing properties. HOMER H. CHARLES will have charge of geological work in North Dakota, South Dakota, and the Illinois basin in addition to his present territory consisting of Kansas, Nebraska, and the Forest City basin. The Bartlesville office records on the Texas Gulf Coast, Louisiana Gulf Coast, and South Texas areas, formerly under the supervision of T. E. Weirich and J. K. KNOX, will be handled by G. F. SHEPHERD. WALTER OLSON will be assistant geologist in the Bartlesville office for Arkansas, North Louisiana, and Mississippi under the supervision of T. E. Weirich. JOHN I. FERGUSON will be assistant geologist in the Bartlesville office for the Bartlesville, Oklahoma City, and Shawnee districts in Oklahoma, under the supervision of H. W. O'Keeffe.

C. L. SUHR, chairman of the board of the Pennzoil Co., Oil City, Pa., was elected chairman of the board of directors of the Oil City Y.M.C.A. at the annual meeting last week. COL. E. V. D. SELDEN, veteran producer, retired refiner and one of the few surviving members of the Oil City Oil Exchange, was named secretary and treasurer.

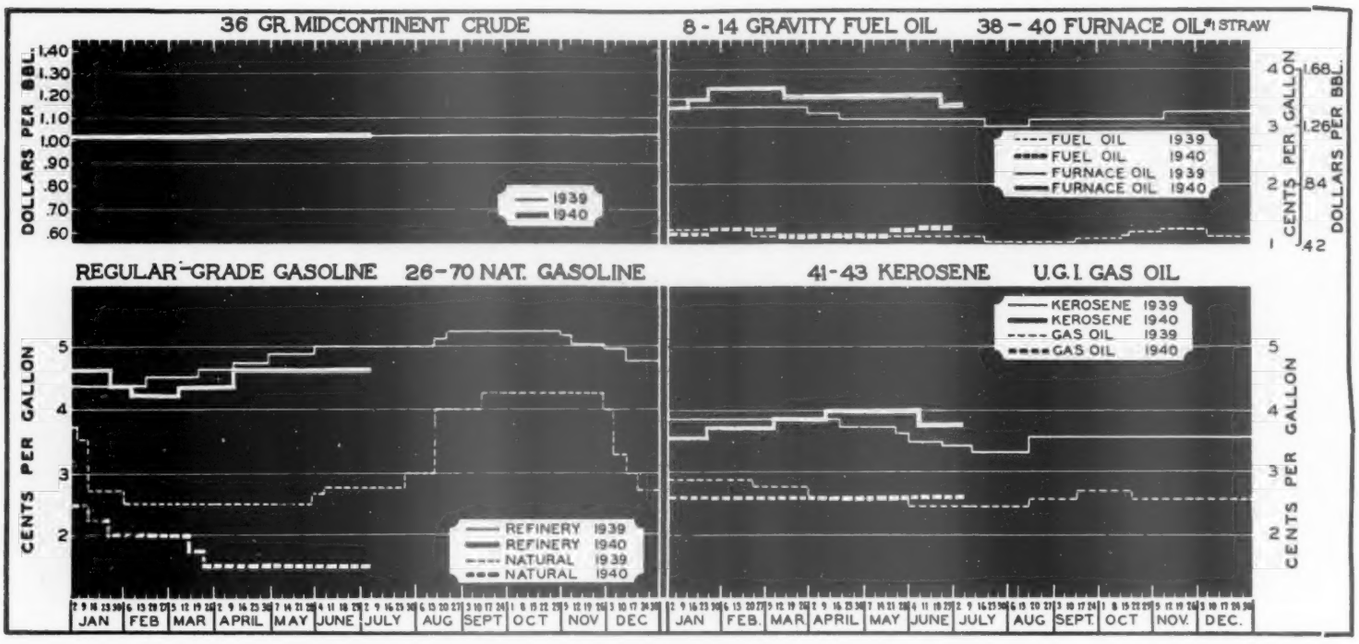
LAURENT B. SMITH will establish his home and move his family to Jackson, Miss., on July 1. Mr. Smith has been placed in charge of transporting crude from the wells of the Exchange Oil Co., a subsidiary of the Sinclair Prairie Oil & Gas Co. The Exchange company operates wells in the new Pickens field in Yazoo County of Mississippi, where the Sinclair interests hold large blocks of acreage. Mr. Smith's office and home had been in Tulsa.

H. E. SLATER, purchasing agent for Gulf Oil Corp., New York producing division, which supervises foreign activity, has returned to his headquarters in New York after a trip through parts of the Mid-Continent and Gulf Coast.

R. W. BOND of Tulsa, production manager for Shell Oil Co., Inc., was a visitor last week in the company's New York offices. Mr. Bond recently returned from a combination business and pleasure trip to South America and planned to reach Tulsa before June ended.

B. H. SPENCE, formerly field foreman for South Penn Oil Co. at Pleasantville, Pa., has been promoted to superintendent of the Oil City district with headquarters there. He succeeds CLARENCE GRAHAM who has been named superintendent of the Bradford district for South Penn.

DICK WHITE, geologist of the Standard Oil Co. of Texas, formerly in the company's Houston, Tex., offices, has been transferred to Midland, Tex., to take charge of geological work in West Texas and Southeast New Mexico. He succeeds JOHN EMERY ADAMS who has been the company's geologist there for 11 years, and is president of the West Texas Geological Society. Mr. Adams is to move to New Orleans, La., where he will open an office to handle the company's operations in the southern states.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Lethargy Prevails in Group 3 Market With Gasoline Facing Slow Period

By H. STANLEY NORMAN

LETHARGY pervaded the Group 3 refined-oil market this week. Conditions that had imparted a fillip to buying of gasoline during the second half of June were no longer operative, and refiners were inclined to look on the early days of July as critical ones. A gasoline market already weakened by excessive stocks and upset by uncertainties attending the European war was called upon to endure the test imposed by a period of relatively inactive buying. Whether tank-car prices, for months at abnormally low levels, could withstand any further strain was a matter of concern.

Tax Spurs Jobber Buying

The increase of a half cent in the federal tax on gasoline, effective July 1, spurred jobbers to build stocks to the limit of their storage facilities. There was the further incentive to buying that lay in the fact that Independence Day falls this year on Thursday, thus creating a 4-day week end for many car owners. There may be a little replacement buying next week, but it is not likely to mean much statistically. Refiners expressed the view that if prices could hold up during the short period of dullness that is in prospect, there was little danger of any decline till after the season of peak consumption.

Subnormal tank-wagon prices of gasoline were raised generally 1 cent throughout Oklahoma last Friday, Phillips Petroleum Co. initiating the advance and most other companies meeting it. The new prices have a top of 12 cents for third grade, 13 cents for house brand and 14½ cents for premium. In some areas the tank-wagon price of house-brand material was 10 cents. This went to 11 cents. With the higher federal tax the total advance in tank-wagon prices in Oklahoma was 1½ cents. Many service stations added a half cent more, making the retail price 2 cents higher.

Refined Oil Market Barometer

All divisions, except heavy industrial fuels, quiet. Lessened activity in gasoline especially noticeable because it had been bought briskly for Independence Day holiday and to take advantage of the old federal tax, which was advanced a half cent July 1. Wax dropped sharply with falling off in exports. Demand for heavy fuels increasing. Light fuels slow.

MID-CONTINENT. Gasoline slower. Wax off. Heating oils stagnant. Heavy fuels firm.

EAST COAST. Gasoline quiet. Residual fuels gaining. Kerosene and heating oils dull.

GULF COAST. Heavy fuels strong. Gasoline weaker. Light fuels and burning oils soft.

PENNSYLVANIA. Lubricating oils off. Gasoline unsettled. Wax weak.

CALIFORNIA. Gasoline dull. Gas oil, diesel, and fuel weak. Kerosene soft.

CHICAGO. Gasoline holding. Light fuels spotty. Rising call for kerosene and tractor fuel.

The drop of 384,000 bbl. in gasoline stocks in the week ended June 22 was disappointingly small. Mid-Continent stocks declined 287,000 bbl. and most other areas registered modest decreases. Texas Gulf inventories, however, rose 296,000 bbl. The addition to Gulf stocks, already critically burdensome, was ascribed to the further shrinkage of export business resulting from the French defeat and Italy's entrance into the war.

In Oklahoma gasoline stocks were in satisfactory shape. There appearently were no distress inventories, and buyers said offerings were far from urgent.

Wax was another casualty of the impaired export market. The 124-126 white crude scale, which a month ago was commanding 4¾ cents a pound, was obtainable for a cent below that price this week. The wax market this year was built up mainly on oversea demand, and its sudden decline scuttled prices.

Naturals' Prospects Uninviting

Natural gasoline prospects were uninviting, as they have been for months. Several French contracts had been canceled, leaving the congestion at Gulf ports a more formidable problem than ever. The market in Oklahoma and Kansas was reported to be actually tight, but demoralization of the trade in Texas kept quotations in all three areas down.

Fair demand for lubricating oils continued in the Mid-Continent, but the unsettled export market threw a shadow over that division.

The same law that raised the federal tax on gasoline to 1½ cent a gallon added a half cent a gallon to the tax on lubricating oils and grease too, making the new tax 4½ cents. The Standard Oil Co. of Indiana and other marketers advanced their prices on these products to dealers and consumers accordingly on July 1.

Heavy fuels were in active demand. While railroads were the principal buyers, there was said to be a steadily increasing call from industrial users. Some refiners were understood to be holding material for higher prices.

The heating oils were drifting, with water-white distillate the weakest member of the group. Buying for storage was of light volume, but it was enough to keep quotations from sagging. Tractor fuels were holding, although demand for harvesting operations had not gained much momentum. Kerosene exhibited a slightly better tone.

Residual Fuel Strong on East Coast; Kerosene Demand Off

By H. STANLEY NORMAN

NEW YORK, July 2.—Tank-car motor-fuel prices were practically unchanged last week. A dip of a quarter of a cent per gallon in 72-74-octane motor fuel in the tank-car markets of Boston, Charleston, and Wilmington was reported, but those points had been slightly on the high side in relation to other Atlantic terminals. Consequently, last week's changes were largely in the form of an adjustment to coincide with basic conditions.

The strongest product in the list is residual fuel oil which gained at least 2 cents per barrel on the low side of the Gulf Coast cargo market. Refiners report demand is in favorable position for the heavy fuel oils and they are still counting on the defense program to open up new or expanded channels of industrial consumption. The Gulf Coast cargo market for No. 6 fuel oil ranges from 80 to 87 cents per barrel, up 2 cents from previous quotations on the low side. Bunker C fuel oil for marine bunkers on the Gulf is quoted at a range of 80 to 95 cents per barrel, and despite limitations placed on movement of American boats by the neutrality act consumption is reported fair. Regular motor fuel in the New York tank-car market is quoted at a range of 5.75 cents on the low side of the spot barge business up to 6.7 cents per gallon for branded products.

Kerosene prices and demand were reported off slightly at several points in the northeastern sections of the country, partly in sympathy with a dip of an eighth of a cent per gallon in the Gulf Coast cargo market. Kerosene was available in some directions on the Gulf at 4 cents per gallon, although a majority of suppliers continued their quotations at a range of 4⅛ to 4½ cents per gallon. Late development of the winter wheat harvest in the Middle West and southwestern section of the country has depressed spring and early summer consumption. Refiners in position to resist, however, feel that immediate consumption prospects and the outlook for fall business justify maintenance of prices at the middle of the range.

Nothing has developed in either the East Coast or the Gulf Coast petroleum markets to indicate that export movement will change from its present depressed position in the near future. No inquiries have developed from Great Britain to indicate that she may turn to this country for supplies previously moved from Iran and Iraq through the Mediterranean. Marine departments of eastern oil companies and tanker brokerage concerns reported that merchant shipping of all classes had been halted by Great Britain through the Mediterranean since Italy joined Germany in the European war. The dangers to equipment and cargo were said to be too great to take a chance on successful movement through patrolled waters of the Mediterranean. Unconfirmed reports reached New York that British tankers and those of other countries under Admiralty control are moving oil from Iran and other near eastern sources around the tip of Africa and thence through Atlantic waters to English ports for discharge.

There was another development which could not be pinned down definitely. Since entry of Italy into the European war—the specific date being hidden—a large convoy of British boats called at the Netherland West Indies for petroleum cargoes. This could not be definitely accepted as a sign that the British are turning to the Americas for petroleum supplies cut off by closure of the Mediterranean. Since the war broke out 10 months ago Netherland West Indies refiners have enjoyed a "feast or famine" in cargo demand. British tankers travel in convoys and since large numbers of boats have called at irregular intervals for Venezuelan petroleum supplies via the West Indies the more recent development cannot be assigned special significance until the incident is repeated regularly. Tanker rates for the American coastwise run have slipped rather sharply during the past 2 weeks. The last fixtures reported for clean boats were at the range of 45 to 47 cents per barrel, which is 7 to 9 cents below the prices asked by owners at the start of June. Part of the tanker charter market weakness can be charged to the Marine Commission's order preventing American flag tankers from moving cargoes to Spanish ports. American boats are also prohibited from entering Mediterranean waters since Mussolini joined Hitler.

Some grades of Pennsylvania lubricating oils lost a cent per gallon, but low pour-test bright stocks and neutrals held their market position reasonably well. Domestic demand is reported satisfactory, but exports have dipped sharply during the past 6 weeks. A report from the Bureau of Foreign and Domestic Commerce at Washington last week showed that lubricating-oil exports increased during the first 9 months of the European conflict to 5,224,000 bbl., against 3,964,000 bbl. for the same period in 1938-39. However, the figures showing a gain of 32 per cent do not include May and June business which has been particularly disappointing in the exportation of not only lubricants but all petroleum products from the United States.

In the bureau's report statistics are shown for September 1938 through April 1939, and September 1939 through April 1940. Exports of crude oil and refined products during the first 8 months of the war totaled 33,547,000 bbl., a decline of 19,721,000 bbl. from the corresponding period in 1938-39. Individually foreign shipments fell off as follows: Crude oil, 7,329,000 bbl.; motor fuel, 6,238,000 bbl.; natural gasoline, 1,316,000 bbl.; kerosene, 828,000 bbl., and naphtha, solvents and other finished light products, 121,000 bbl. Shipments of aviation gasoline were not segregated prior to January 1939. Exports during January-April 1940, at 510,000 bbl., were slightly lower than in the same period of 1939.

Light fuel oils lost market ground on the Gulf Coast, but were practically unchanged in the North Atlantic coastline territory. Low diesel index gas oils sold on the Gulf as low as 3⅛ cents per gallon and the better grades were down from ¼ to ⅜ cent per gallon. Diesel oil to the marine trade in New York remains at $1.95 and Bunker C fuel oil is quoted at $1.35 per barrel. Industrial fuel in tank-wagon trade is quoted in New York at a range of 3½ to 3 81/100 cents per gallon, generally a little higher than previously quoted, perhaps to the extent of a quarter of a cent in spot trading.

A.P.I. Weekly Refinery Statistics

Week Ended June 29, 1940

	Capacity reporting (per cent)	Total gasoline stocks (bbl.)	Residual fuel-oil stocks (bbl.)	Gas oil and distillate stocks (bbl.)	Daily crude runs (bbl.)
East Coast	100.0	23,043,000	8,842,000	10,401,000	561,000
Appalachian	91.0	3,600,000	515,000	333,000	123,000
Ind., Ill., and Ky.	90.2	15,960,000	3,235,000	3,754,000	615,000
Okla., Kans., and Mo.	76.9	7,129,000	2,139,000	1,222,000	283,000
Inland Texas	59.6	1,878,000	1,403,000	305,000	112,000
Texas Gulf	85.3	14,154,000	5,749,000	4,615,000	823,000
Louisiana Gulf	97.6	2,744,000	1,109,000	1,119,000	143,000
N. Louisiana and Ark.	51.5	544,000	477,000	261,000	38,000
Rocky Mountains	55.5	1,377,000	605,000	134,000	42,000
California	87.3	17,673,000	78,192,000	9,846,000	500,000
Total reported	85.3	88,102,000	102,266,000	31,990,000	3,240,000
Est. unreported	.....	7,040,000	2,220,000	1,600,000	385,000
*Est. total	.....	95,142,000	104,486,000	33,590,000	3,625,000
*Est. total prev. wk.	.....	97,276,000	104,683,000	32,751,000	3,690,000
*June 28, 1940	.....	80,549,000	112,521,000	31,606,000	3,480,000

*Bureau of Mines.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATE)

Week ended June 22, 1940	260,891,000 barrels
Week ended June 15, 1940	259,800,000 barrels
Week ended June 24, 1939	272,297,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Gulf Coast Markets

HOUSTON, Tex., July 2.—Bunker C and other heavy fuels gained strength on the Gulf Coast the past week as the sudden spurt in demand exhausted available supplies. At the opening of this week very little material remained unsold. No actual spot sales were reported under 80 cents. These products, which 2 weeks ago were offered freely at 70 cents, now are the sole bright spot in the Gulf Coast markets.

Lighter fuels and burning oils so far have not reflected any of the strength, as the fuel demand has been directed to oils more suitable

(Continued on Page 87)

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of July 2, 1940

Taxes

The gasoline quotations given in the following tables include the 1½-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Dir.	Gasoline Incl. tax	Kero. tank wag.
Chicago, Ill.	15.6	13.6	4.5	10.0
Decatur	14.1	12.6	4.5	9.5
Joliet	15.6	14.1	4.5	10.0
Peoria	15.6	13.2	4.5	10.0
Quincy	15.4	13.9	4.5	9.8
Davenport, Ia.	15.6	14.1	4.5	†10.0
Des Moines	15.4	12.9	4.5	‡9.8
Mason City	15.8	14.3	4.5	†10.2
Duluth, Minn.	17.4	15.9	5.5	10.8
Mankato	17.0	15.5	5.5	9.0
Minneapolis	17.0	14.0	5.5	10.4
LaCrosse, Wis.	17.0	15.5	5.5	10.4
Green Bay	17.4	15.9	5.5	10.3
Milwaukee	16.8	15.3	5.5	10.2
Detroit, Mich.	14.1	12.6	4.5	7.6
Grand Rapids	13.7	12.2	4.5	9.0
Saginaw	14.7	13.2	4.5	9.3
Evansville, Ind.	17.1	15.6	5.5	†10.5
Indianapolis	17.3	14.8	5.5	†10.2
South Bend	17.3	15.8	5.5	†10.2
Fargo, N. D.	18.2	16.7	5.5	11.6
Huron, S. D.	17.5	16.0	5.5	10.9
Kans. City, Mo.*	14.9	13.4	4.5	8.0
St. Louis*	15.2	13.2	4.5	8.0
St. Joseph	14.9	12.5	4.5	7.9
Wichita, Kans.	13.8	12.1	4.5	7.0

*State tax 2 cents, 1-cent city tax, and 1½-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gal. or more, 1.5 cents off; minimum delivery 25 gal.

Stanolex Fuel Oil in Chicago

Effective April 18, 1940, f.o.b. Chicago, tank-wagon prices: Standard heater oil, 1-99 gal., 8.75 cents; 100-149 gal., 7.75 cents, 150 gal. and over, 7.25 cents. Stanolex fuel oil No. 1, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7 cents; 400 gal. and over, 6.5 cents. Stanolex furnace oil, 1-99 gal., 8.5 cents; 100-149 gal., 7.5 cents; 150-399 gal., 7 cents; 400 gal. and over, 6.5 cents. Stanolex fuel oil A, 1-399 gal., 5.5 cents; 400-799 gal., 4.5 cents; 800 gal. and over, 4.25 cents. Stanolex fuel oil B, 1-399 gal., 5.5 cents; 400-799 gal., 4.5 cents; 800 gal. and over, 4.25 cents. Stanolex Bunker C fuel oil, 1-999 gal., 4.25 cents; 1,000 gal. and over, 3.25 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Cons'r tank wag.	Gasoline Dividend dlr.	Gasoline Incl. tax	Kero. tank wag.
Ohio points	16.0	15.0	5.5	*9.0

*Includes state tax of 1 cent.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Cons'r tank car	Gasoline Dir. tank wag.	Gasoline Incl. tax	Kero. tank wag.
Atl'tic City, N. J.	12.1	13.2	4.5	8.0
Newark	12.1	13.2	4.5	8.0
Annapolis, Md.	13.85	14.85	5.5	9.5
Baltimore	13.25	14.25	5.5	9.0
Cumberland	14.65	16.65	5.5	10.0
Wash'gton, D. C.	11.50	12.50	3.5	9.5
Danville, Va.	15.45	17.95	6.5	11.5
Norfolk	14.25	16.75	6.5	11.0
Petersburg	14.55	17.05	6.5	11.7
Richmond	14.55	17.05	6.5	11.0
Roanoke	15.75	18.25	6.5	11.0
Charles'n, W. Va.	15.05	17.55	6.5	12.6
Parkersburg	14.35	15.85	6.5	11.2
Wheeling	15.35	17.25	6.5	11.8
Charlotte, N. C.	17.40	18.00	7.5	11.8
Hickory	17.95	19.45	7.5	12.3
Mt. Airy	17.80	19.30	7.5	12.2
Raleigh	17.15	18.00	7.5	11.5
Salisbury	17.45	17.50	7.5	11.9
Charleston, S. C.	15.25	17.75	7.5	9.75
Columbia	16.10	18.60	7.5	11.5
Spartanburg	16.80	19.30	7.5	12.7

Price basis to Essolene undivided dealers: Dealer tank-wagon price less 0.5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gal., consumer tank-wagon price at time and place of delivery; 100,000 gal. per year, consumer tank-car price plus 0.5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less 0.5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gal. or more, consumer tank-wagon price. Single deliveries of less than 50 gal., 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less 0.5 cent per gallon. The above policy also applies in South Carolina, effective January 23, 1939.

Discounts for kerosene, 1 cent off tank-wagon price for 25 gal. or more under contract (contract not necessary in Baltimore), except no discount in New Jersey.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline Cons'r tank wag.	Gasoline Net dlr.	Gasoline Incl. tax	Kero. tank wag.
Atlanta, Ga.	16.5	16.5	7.5	10.0
Augusta	17.5	17.5	7.5	10.0
Macon	15.0	15.0	7.5	10.0
Savannah	16.5	16.5	7.5	9.0
Birmingham, Ala.	18.0	18.0	8.5	9.0
Mobile	18.0	18.0	9.5	8.0
Montgomery	18.5	18.5	9.5	10.0
Jackson, Miss.	16.5	16.5	7.5	9.5
Vicksburg	16.5	16.5	7.5	9.0
Jacksonville, Fla.	16.0	16.0	8.5	8.0
Miami	16.0	16.0	8.5	8.0
Pensacola	18.0	18.0	9.5	8.5
*Tampa	20.5	17.5	8.5	8.0
Lexington, Ky.	16.0	16.0	6.5	10.0
Covington	15.0	15.0	6.5	9.5
Louisville	15.0	15.0	6.5	9.0
Paducah	15.5	15.5	6.5	9.0

Price basis to tank-wagon consumers, effective January 4, 1937, 3 cents per gallon below tank-wagon price.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent. All are included in the table.

*Temporary discounts to tank-wagon consumers in Tampa 3 cents per gallon below consumer tank-wagon price on Crown gasoline.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Cons'r tank car	Gasoline Dir. tank wag.	Gasoline Incl. tax	Kero. tank wag.
Albany	11.7	13.5	5.5	7.9
*Met. N. Y.: Manhat., Bronx, Queens, Brklyn., Staten Island	12.2	12.7	5.5	8.2
Buffalo	12.8	13.6	5.5	8.0
Rochester	13.3	14.2	5.5	8.5
Syracuse	12.7	13.9	5.5	8.7
Portland, Me.	11.7	13.8	5.5	8.0
Manchester, N.H.	12.4	12.5	5.5	8.8
Burlington	12.4	14.5	5.5	8.5
Boston, Mass.	10.8	11.8	4.5	8.3
Worcester	11.3	12.1	4.5	8.4
Hartford	11.0	12.0	4.5	8.1
New Haven	10.9	11.9	4.5	8.1
Providence, R. I.	10.7	12.2	4.5	8.3

*Does not include 2 per cent city sales tax, which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Effective February 15, 1939, the company changed its commercial consumer policy in New York and in New England points for tank-wagon delivery to the following: Annual purchases 10,000 gal. and under, tank-car price plus 2 cents per gallon; annual purchases 10,000 gal. up to 50,000 gal., tank-car prices plus 1.5 cents per gallon; annual purchases 50,000 to 200,000 gal., tank-car price plus 1 cent per gallon; annual purchases 200,000 gal. and over, tank-car price plus ½ cent per gallon. Private consumers pay undivided dealer price, plus 2 cents per gallon. Private consumers receiving full compartment deliveries of at least 200 gal. receive a discount of ½ cent per gallon.

Pennsylvania and Delaware

ATLANTIC REFINING CO.

	Gasoline Cons'r tank car	Gasoline Dir. tank wag.	Gasoline Incl. tax	Kero. tank wag.
Philadelphia, Pa.	12.5	14.0	5.5	10.5
Pittsburgh	13.5	15.0	5.5	10.5
Allentown	13.5	15.0	5.5	10.5
Erie	13.5	15.0	5.5	10.0
*Scranton	13.0	14.5	5.5	10.5
Altoona	13.5	15.5	5.5	10.5
Dover, Del.	...	14.5	5.5	10.5
Wilmington	...	14.0	5.5	10.0

Price basis to undivided dealers, dealer tank-wagon price less 0.5 cent per gallon.

Discount on kerosene, 2 cents per gallon off tank-wagon price on tank-wagon deliveries of 25 gal. or more at one time.

*Voluntary discount of 1 cent allowed to dealers only.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank truck	Gasoline Serv. sta.	Gasoline Incl. tax	Kero. tank wag.
San Francisco	16.5	17.5	4.5	11.5
Los Angeles	16.0	17.0	4.5	10.5
Fresno, Calif.	17.5	18.5	4.5	12.5
Phoenix, Ariz.	20.5	21.5	6.5	*17.5
Reno, Nev.	19.5	20.5	5.5	13.5
Portland, Ore.	19.0	20.0	6.5	13.5
Seattle, Wash.	19.0	20.0	6.5	13.5
Spokane	20.5	21.5	6.5	16.5
Tacoma	19.0	20.0	6.5	13.5

*Includes 5-cent state tax.

Discount to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gal. and over, advance quantity discount extended at time of delivery, 3 cents. Service-station schedule applies on single deliveries less than 40 gal. On kerosene in tank-car, transport-truck, and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank wagon.

March 18, 1939, split dealer discount was canceled.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Tank wag.	Gasoline Dir.	Gasoline Incl. tax	Kero. tank wag.
Denver, Colo.	13.5	...	5.5	10.5
Grand Junction	18.0	...	5.5	12.5
Pueblo	15.5	...	5.5	9.0
Casper, Wyo.	17.0	...	5.5	11.5
Cheyenne	14.5	...	5.5	11.0
Billings, Mont.	18.5	...	6.5	12.0
Butte	15.5	...	6.5	13.0
Great Falls	18.5	...	6.5	12.0
Helena	16.5	...	6.5	12.5
Salt Lake, Utah	16.0	...	5.5	14.0
Boise, Idaho	20.6	...	6.5	16.0
Twin Falls	21.6	21.6	6.5	16.5
Albu'que, N. M.	15.0	...	6.5	9.5
Roswell	14.0	14.0	7.0	8.0
Santa Fe	16.0	...	7.0	10.0

*Includes city tax of 0.5 cent. †Includes state tax of 1 mill.

Tank wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Cons'r tank car	Gasoline Dir. tank wag.	Gasoline Incl. tax	Kero. tank wag.
New Orleans, La.	14.25	13.75	8.5	†11.0
Baton Rouge	15.25	17.75	8.5	‡10.5
Alexandria	15.25	17.75	8.5	‡10.5
Lafayette	15.50	18.00	8.5	‡10.0
Lake Charles	15.25	17.75	8.5	‡10.0
Shreveport	14.00	16.50	8.5	‡9.0
Knoxville, Tenn.	18.50	20.00	8.5	12.5
Memphis	16.50	18.00	8.5	11.0
Chattanooga	18.00	19.50	8.5	12.0
Nashville	17.50	16.90	8.5	11.5
Bristol	18.75	18.00	8.5	12.0

Essolene at dealer price less 0.5 cent per gallon to undivided dealers.

†Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gal. or more in one territory take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gal. at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less 0.5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective February 24, 1939, the company reestablished in New Orleans the commercial consumer policy on motor fuel effective in the rest of the state.

Effective December 12, 1938, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gal., consumer tank car plus 2 cents per gallon 50 to 199 gal., consumer tank car plus 1 cent per gallon; 200 gal. and over, consumer tank car plus 0.5 cent per gallon.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline Tank wag.	Gasoline Incl. tax.	Kero. tank wag.
Texarkana, Ark.	13.5	5.5	7.0
Fort Smith	15.0	5.5	8.0
Little Rock	17.25	8.0	8.0
Muskogee, Okla.	13.0	5.5	7.0
Oklahoma City	11.5	5.5	6.5
Tulsa	12.5	5.5	6.0

Tank wagon represents price to consumers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank wag.	Gasoline Dir.	Gasoline Incl. tax	Kero. tank wag.
Omaha	17.0	15.4	6.5	9.0
McCook	17.5	14.4	6.5	9.5
Norfolk	17.5	15.4	6.5	9.9
North Platte	17.8	15.0	6.5	10.2
Scottsbluff	18.4	15.5	6.5	10.5

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Texas

	Gasoline Tank wag.	Gasoline Dir.	Gasoline Incl. tax	Kero. tank wag.
Dallas, Tex.	11.5	15.5	5.5	6.0
Fort Worth	11.5	15.5	5.5	7.0
Houston	12.0	16.0	5.5	8.0
San Antonio	12.5	17.0	5.5	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	16.2
V.M.&P. naphtha	16.5
Cleaners' naphtha	15.5
Stanisol	15.5

*Prices include 3-cent Illinois tax but not 1-cent federal tax nor 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gal. lots if covered by contract.

Canada*

3-Star Imperial Gasoline

IMPERIAL OIL, LTD.

	Gasoline Tank wag.	Gasoline Incl. tax.	Kero. tank wag.
Halifax, N. S.	24.5	10.0	18.0
St. John, N. B.	24.5	10.0	18.0
Montreal, Que.	24.0	8.0	16.5
Toronto, Ont.	23.5	8.0	16.0
Hamilton, Ont.	23.5	8.0	16.0
Winnipeg, Man.	26.5	7.0	20.5
Brandon, Man.	28.0	7.0	22.9
Regina, Sask.	25.0	7.0	20.0
Saskatoon, Sask.	28.0	7.0	23.0
Edmonton, Alta.	25.9	7.0	20.0
Calgary, Alta.	23.0	7.0	18.0
Vancouver, B. C.	21.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Standard Oil Co. of New Jersey June 20 reduced dealer tank-wagon gasoline 0.65 cent in Raleigh and 1.45 cent in Salisbury; June 24, reduced dealer tank-wagon 0.9 cent in Charlotte; June 25, reduced tank-wagon kerosene 0.4 cent in Atlantic City and Newark.

Standard Oil Co. (Kentucky) June 14 reduced consumer tank-wagon and net dealer gasoline 2 cents in Macon; June 20, advanced tank-wagon kerosene 1 cent in Montgomery.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of July 2, 1940

The quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils. Octane ratings in Middle West, Mid-Continent, and Southwest are based on A.S.T.M. method of testing.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
72-74 octane (regular)	.04⅝	.04¾
63-66 octane	.04⅛	.04¼
60 octane and below	.03¾	.03⅞
60-62 400 grades:		
72-74 octane (regular)	.04⅝	.04¾
63-66 octane	.04⅛	.04¼
60 octane and below	.03¾	.03⅞

NORTH TEXAS—

U. S. Motor grades:		
72-74 octane (regular)	.04⅝	.04¾
63-66 octane	.04⅛	.04¼
60 octane and below	.03¾	.03⅞
60-62 400	.03¾	.03⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
72-74 octane (regular)	.05⅛	.05⅜
63-66 octane	.04⅝	.04⅞
60 octane and below	.04¼	.04½

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
72-74 octane (regular)		.04¾
60 octane and below		.04

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
72-74 octane (regular)	.04¾	.04⅞
63-66 octane	.04⅜	.04½
60 octane and below	.04	.04⅛
60-62 400 grades:		
72-74 octane (regular)	.04¾	.04⅞
63-66 octane	.04⅜	.04½
60 octane and below	.04	.04⅛

PENNSYLVANIA (inland refineries)—

74-76 octane (regular)	.06
72-74 octane	.05¾

CALIFORNIA (domestic movement)—

58-60 400, 65 oct. and higher	.06¼	.07¼
54-58 U. S. Motor	.05	.06½

EAST COAST (domestic)—

U. S. Motor grades:	
*New York (Bayonne)	.06
Philadelphia	.06
Boston	.06¼
Baltimore	.06
Charleston, S. C.	.06½

*All grades of gasoline ⅛ to ¼ cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery ¼ cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
72-74 octane	.04¼	.04⅜
70-72 octane (leaded)	.04⅛	.04¼
68-70 octane	.04	.04⅛
65-67 octane	.03⅞	.04

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.01½
Grade 18-55	.01¾	.01⅞

NORTH TEXAS—

Grade 26-70	.01¼
Grade 18-55	.01½

CALIFORNIA—

75-85 375-390	.05¼	.05¾

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70	.01⅝

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110-flash, 540-550 e.p.	.03⅝	.03¾
41-43 gr., 300-320 l.b.p., 110-125 flash, 500-520 e.p.	.03¾	.03⅞
46-48 gr., 210-230 l.b.p., 480-max., e.p.	.03⅞	.04

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

42-44	.03⅞	.04
41-43	.03¾	.03⅞

NORTH TEXAS—

41-43	.03¾	.03⅞

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.03⅞	.04

ARKANSAS (Ark. and N. La. del.)—

41-43	.04¼

PENNSYLVANIA (inland refineries)—

47	.05¼	.05⅜
46	.05⅛	.05¼
45	.05	.05⅛

CHICAGO (Based on Group 3)—

42-44	.04	.04⅛
41-43	.03⅞	.04

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04½	.05½

NEW YORK (Bayonne, N. J.)—

41-43	.054	.055

GULF COAST (domestic)*—

41-43	.04¼	.04⅝

*Barge price ¼ cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03½	.03⅝
No. 1 prime white, 38-42	.03⅜	.03½
No. 1 straw, 38-40		.03⅜
No. 2 straw, 32-36	.03¼	.03⅜
No. 3 zero to 10, 28-32	.03⅛	.03¼

NORTH TEXAS—

No. 1 prime white, 38-42		.03½
No. 1 straw, 38-40		.03⅜

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	0.3	.03⅛

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36	.03¼	.03½

CHICAGO (Based on Group 3)—

Range oil	.03⅝	.03¾
No. 1 prime white, 38-40	.03½	.03⅝
No. 2 straw, 32-36	.03¼	.03⅜
No. 3, zero to 15, 28-32	.03⅛	.03¼

NEW YORK (Bayonne, N. J.)—

*No. 1	.054	.0550
*No. 2	.047	.0475
*No. 4	.047	.0475

Barge deliveries ⅛ to ¾ cent under above tank-car price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5, low pour point, 18-22	.72½	.77½
No. 6, 15 and above, 8-14	.50	.55

NORTH TEXAS—

U.G.I. gas oil, under 35	.02⅝	.02¾
No. 5, low pour point, 18-22	.72½	.77½
No. 6, 15 and above, 8-14	.50	.55

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.65	.70

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02⅞
No. 5, low pour point, 18-22	.75	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pour point, 10-16	.60	.70
No. 6, 15 and above, 10-16	.45	.55

PENNSYLVANIA (inland refineries)—

36-40	.04

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.10	1.25
24 plus diesel, per bbl.	1.10	1.25
24 plus diesel (bunkers)	1.20	1.35
12-16 (bunkers at tidewater)	.65	.75
10-16 (cargo lots)	.65	.75
12-17 (tank cars)	.60	.75
10-17 (high sulfur)	.50	.65
San Joaquin Valley:		
10-18 (tank cars)	.50	.70
24 plus diesel, per bbl.	1.10	1.25
San Francisco:		
24 plus diesel, per bbl.	1.35	1.40
24 plus diesel (bunkers)	1.40	1.50
10-16 (bunkers)	.80	.85

GULF COAST—

No. 2 fuel	.03¼	.03½
43-47 diesel	.03½	.03¾
48-52 diesel	.03¾	.04
53-57 diesel		.04
58-and-above diesel	.04	.04¼
Diesel bunkers		1.50
Bunker C (bulk cargoes)	.80	.82½
Bunker C (bunkers)		.80

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil	.04½	.05
28-30 diesel (lighterage 6¼c per bbl.)		1.95
28-30 diesel (tank cars)	.04½	.05
Bunker C (to ocean-going ships in N. Y. Harbor)		1.35
Industrial fuel (tank cars)	.035	.038

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

200-210 D, 10-25		.20
150-160 D, 0-10		.16
150-160 D, 10-25		.15½
100-110 D, 0-10		.15
100-110 D, 10-25		.14½
Steam refined:		
600 dark green (untreated)		.07

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour point		19½
15 pour point		18½
25 pour point	.15	.17
Steam refined:		
600	.10	.11
650	.12	.13
600 flash	.13	.14
630 flash	.15	.16

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

0-10 pour point:	
150-3	.08½
180-3	.09½
200-3	.10
250-3	.11
280-3	.11½
280-4	.11
300-3½	.12
350-3½	.12½
400-3½	.13
500-3½	.14
600-3½	.15
100-2½ paraffin oil, 10-25	.05¼
10-25 pour point:	
200-3	.09½
250-3	.10½
280-3	.11
280-4	.10½

GULF COAST—

Pale oils:		
100-3	.05½	.05¾
200-3	.07¼	.07½
300-3	.07¾	.08
500-3½	.08½	.09
750-3½	.09	.09½
1,200-3½	.09¾	.10
2,000-4	.10	.10¼
3,000-4	.12¼	.12½
Red oils:		
200-5-6	.07	.07¼
300-5-6	.07½	.07¾
500-5-6	.08¼	.08¾
750	.08¾	.09¼
1,200-5-6	.09¾	.09¾

CALIFORNIA (moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pour point		.22½
10 pour point		.21½
15 pour point		.20½
25 pour point	.19	.20
200 vis. at 70° F., 3 color:		
Zero pour point		.24½
10 pour point		.23½
15 pour point		.22½
25 pour point	.21	.22

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 A.m.p.) w.c. scale	.03¾	.04¼

PENNSYLVANIA (inland refineries)—

122-124 (A.m.p.) w.c. scale	.03¼	.04
124-126 (A.m.p. w.c. scale	.03¼	.04

NEW YORK—

Wax in bags fully refined:		
125-127 (A.m.p.) wax	.061	.062
128-130 (A.m.p.) wax	.062	.064
130-132 (A.m.p.) wax	.064	.066
133-135 (A.m.p.) wax	.065	.067
135-137 (A.m.p.) wax	.069	.070
Crude scale:		
124-126 (A.m.p.) w.s.	.03⅝	.04⅜
124-126 (A.m.p.) y.s.	.03⅝	.04⅜
Petrolatum in barrels, carload lots:		
Dark green	.02625	.03125
Amber	.02875	.03375
Extra amber	.03000	.03625
Lily white	.05125	.05875
Snow white	.06125	.06875
Cream	.04125	.04875

Export Prices

GASOLINE

GULF COAST—

U. S. Motor		.04
60-62 400	.04	.04¾
61-63 390	.04	.04¾
64-66 375	.04	.04⅞

LOS ANGELES—

U. S. Motor grades:		
Above 69 octane	.06¼	.06½
65-69 octane	.05¾	.06¼
60-65 octane	.05¼	.05¾

KEROSENE

GULF COAST—

41-43 water white	.04	.04½

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.s in bbl.)—

Cylinder stocks:		
600 S.R. unfiltered	.18½	.19½
630 S.R. unfiltered	.19½	.20
600 flash, S.R.	.20	.21
630 flash, S.R.	.24½	.25½
Bright stock:		
Light, 25 pour point	.25	.25½

NEUTRAL OIL

200-3 color	.27	.28
150-3 color	.26	.27½

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 A.m.p.		.06
125-127 A.m.p.		.06¼
128-130 A.m.p.		.06½
133-135 A.m.p.		.07
135-137 A.m.p.		.07¼
Crude scale:		
124-126 w.s.	.03⅝	.04⅜
124-126 y.s.	.03⅝	.04⅜

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas (Oct. 11, 1938)* $1.10
Sinclair Prairie Oil Marketing Co. October 2, 1939. DeSoto Pipe Line October 2, 1939. Cities Service Co. October 5, 1939. Shell Oil, Inc., October 5, 1939.
Van, Tex. (Oct. 11, 1938)* $0.93
Talco, Tex. (Oct. 2, 1939)* 65
Rodessa, Tex. .....
See North Louisiana gravity schedule
Cass and Panola counties, Texas...
See note below
Altus and Tipton†.....See note below
Cayuga, Tex. (Oct. 2, 1939) $0.78
Clay Creek, Tex. 85
Long Lake, Tex. (Jan. 20, 1940) .. 1.08

*Humble Oil & Refining Co. †Gulf Refining Co. Pure Oil Co.'s Van price, 93 cents, effective Oct. 13, 1938.

Cass and Panola counties, Texas, effective October 12, 1938, by Magnolia Petroleum Co., same as North Louisiana prices in Column 5 gravity schedule.

Altus and Tipton, Oklahoma, starting at below 25° at 71 cents, 2-cent spread to 40° and above at $1.03. Cayuga posted by Pan American Pipe Line Co. Clay Creek by Sun Oil Co. Long Lake by Sinclair Oil Marketing Co.

West Texas

See gravity table.
Fisher County, Texas (Apr. 1, 1939)
See note below
Pecos County (Oct. 11, 1938)* $0.78
Pecos shallow (Oct. 11, 1938)† 65

*Shell Oil Co., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Oil Co.

Fisher County, Texas, by Shell Oil Co., Inc., below 25°, 68 cents; 25°, 70 cents, with 2-cent spread to 40° and over at $1.

North Louisiana and Arkansas

Shreveport, La. (Sept. 7, 1939) $1.05
See note below
Smackover, Ark. (Oct. 5, 1938)* .... .73
Buckner, Magnolia, and Village, Ark. (Oct. 5, 1938)*.....See note below
Schuler, Jones sand (Sept. 13, 1939) .79
Schuler, Reynolds sand (Sept. 13, 1939) 91
Tullos and Urania 89
Cotton Valley, La. (distillate) (Dec. 23, 1938)* 1.20
Cotton Valley (Holloway sand) Dec. 16, 1939) 1.00
Lisbon, La. (Apr. 29, 1939) .....
See note below
Atlanta, Ark. (Sept. 13, 1939) 93
Magnolia, Ark. (Sept. 13, 1939) 93
Dorcheat, Ark. (Feb. 10, 1940) 1.00
University, La. (Sept. 11, 1939)..
See note below

*Smackover posted by Standard Oil Co. of Louisiana, Oct. 5, 1938; by Magnolia Petroleum Co. Oct. 12; by Gulf Refining Co., Oct. 13; McMillan Refining Co. and Cross Refining Co. met price. Tullos and Urania posted by Hunt Oil Co. and Arkansas Fuel Oil Co.

The above Schuler, Atlanta, and Magnolia, Arkansas, flat prices posted by Lion Oil Refining Co. Shreveport flat prices posted by Caddo Crude Oil Purchasing Co. and Atlas Oil Corp.

Buckner, Magnolia, and Village, Arkansas prices effective Sept. 13, 1939, by Standard Oil Co. of Louisiana, start at below 25° at 63 cents, with 2 cents added for each degree up to 40 and over at 95 cents.

Effective Sept. 7, 1939, Standard Oil Co. of Louisiana posted gravity prices in Shreveport field beginning at below 25°, 73 cents; 25-25.9°, 75 cents, with 2 cents added for each degree up to 40 and over at $1.05. Dorcheat posted by Standard of Louisiana.

In the Lisbon, Louisiana, field, effective Sept. 14, 1939, Gulf Refining Co. and Caddo Crude Oil Purchasing Co. posted 27-27.9°, 66 cents, with 2 cents added for each degree up to 35 and over at 82 cents.

In the Baton Rouge (University) field, Louisiana, effective Sept. 11, 1939, Standard Oil Co. of Louisiana posted below 20° 79 cents, with 3 cents added for each degree upward to 26-26.9° at $1, and then 2 cents added for each degree up to 40 and over at $1.28. Posting discontinued Mar. 14, 1940.

Southwest Texas

Salt Creek, Darst Creek, Hilbig, Carroll, Clark and Zoboroski (Oct. 11, 1938)* $0.96
Pettus (Oct. 11, 1938)* 1.29
Flour Bluff (Dec. 3, 1938)* 1.23
Jim Wells County (Oct. 2, 1939)*.. 1.23
Darst Creek (Oct. 12, 1938)† 96
Darst Creek and Bruner (Oct. 13, 1938)‡ 96
Luling (Oct. 12, 1938)† 87
Lytton Springs (Oct. 12, 1938)† 89
Mirando (Oct. 12, 1938)† .....
Government Wells (Oct. 13, 1938) ..
See note below

*Humble Oil & Refining Co. †Magnolia Petroleum Co. Pettus price adopted by Atlantic Crude Oil Purchasing Co. ‡Gulf Refining Co.

Government Wells posted by Sun Oil Co. starts at 20° at 77 cents, 3-cent spread to 24°-24.9° at 89 cents.

Gulf Coast

Sea Breeze, Willow Slough, and LaBelle, Tex. (Sept. 14, 1939)***.$1.10
Conroe, Tex. (Oct. 11, 1938)* 1.27
Black Bayou and White Castle, La. (Oct. 11, 1938)† .....See note below
Gibson, La. (Oct. 11, 1938)† $1.04
Garden Island, La. (Oct. 12, 1938)‡. 1.24
Lafitte, La. (Oct. 12, 1938)‡ 1.04
Cleveland, Tex. (Oct. 12, 1938)¶ 1.14
Hardin, Tex. (Sept. 14, 1939)* 1.10
Tepetate, La. (Oct. 11, 1938)§ 1.03
Villa Platte, La. (Oct. 11, 1938)§ 1.03
Abbeville, La. (Jan. 1, 1939)§ .....
See note below
Bosco, La. (Dec. 3, 1938)‖ $0.93
Creole, La. (June 10, 1940)‖ 1.00
Gueydan, Sweet Lake, and Louise, La. (Oct. 13, 1938)‖ ....See note below
Vinton, Edgerly, Starks, Hackberry, Timbalier Bay, Quarantine Bay, and Grand Bay, La. (Oct. 2, 1939)**
Segno and Wing (Oct. 2, 1939)**
See note below
Livingston (Oct. 11, 1938)† $1.10
Happytown, La. (Jan. 12, 1940)† .. 1.00

*Humble Oil & Refining Co. †Shell Oil Co., Inc., ‡Texas Co. §Continental Oil Co. ‖Pure Oil Co. ¶Magnolia Petroleum Co. **Gulf Refining Co. ***Sun Oil Co. Hardin prices by Humble and Sun companies.

Black Bayou, etc., starts at below 20° at 79 cents; 20°-20.9°, 81 cents; 21°-21.9°, 83 cents; then a 3-cent spread to 26°-26.9°, 98 cents; then a 2-cent spread to 40° and over at $1.14. Abbeville starts at below 36°, 92 cents, 2-cent spread to 40° and over at $1.02. Gueydan, etc., starts below 20°, 79 cents, 3-cent spread to 26°-26.9° at $1, and 2-cent spread to 40° and over at $1.28. Segno and Wing take Gulf Refining Co.'s Gulf Coast prices. Vinton, Edgerly, etc., schedule starts at below 20°, 86 cents, 2-cent spread to 34° and above at $1.16. Shell Oil Co. withdrew as a purchaser in the Schwab-Wilcox area, Texas, on Apr. 8, 1940.

Hackberry, East and West, effective October 2, 1939, by Stanolind Oil & Gas Co. Below 20 gravity 86 cents, 2 cents added for each degree up to 34° and over at $1.16.

In the Bunkie and Eola pools in Louisiana, Gulf Refining Co. posted 30° and above at 95 cents, 2-cent spread to 40° and over at $1.01, effective October 13, 1938.

Crude Prices by Gravities

Gravity—	Oklahoma and Kansas 1	Oklahoma and Kansas 2	Oklahoma and Kansas 3	North and Central Texas 4	Louisiana and Arkansas 5	East Central Texas 6	Gray County, Texas 7	Carson and Hutchinson Counties, Texas 8	West Texas, and Lea County, N. M. 9	Raccoon, Satsuma, and Tomball, Texas 10	Gulf Coast 11	Anahuac, Dickinson, Texas 12	Refugio, Texas 13	Mirando-Duval, Beaumont-West Beaumont, Texas 14	Golden Meadow, Louisiana 15	Lockport, Iowa, Cameron Meadows, Louisiana 16	Bunkie and Eola, Louisiana 17	Artesia, Jackson, Maljamar, N. M. 18
Below 18																$.74		
18-18.9									$.53							.76		
19-19.9									.53		$.86	$.81	$.91	$.86		.78		
20-20.9	$.70		$.60						.55		.88	.83	.93	.88		.80		
21-21.9	.72		.63						.57		.90	.85	.95	.90		.82		
22-22.9	.74		.66						.59	$.95	.92	.87	.97	.92		.85		
23-23.9	.76		.69			$.78			.61	.97	.94	.89	.99	.94		.88		
24-24.9	.78		.72	$.71	$.73	.80			.63	.99	.96	.91	1.01	.96	$.90	.91		
Below 25																	$.83	
25-25.9	.80	$.58	.75	.73	.75	.82			.65	1.01	.98	.93	1.03	.98	.90	.94	.85	
26-26.9	.82	.63	.78	.75	.77	.84			.67	1.03	1.00	.95	1.05	1.00	.90	.97	.87	
27-27.9	.84	.68	.81	.77	.79	.86			.69	1.05	1.02	.97	1.07	1.02	.90	.99	.89	
28-28.9	.86	.73	.84	.79	.81	.88	$.72	$.67	.71	1.07	1.04	.99	1.09	1.04	.90	1.01	.91	$.61
29-29.9	.88	.78	.87	.81	.83	.90	.74	.69	.73	1.09	1.06	1.01	1.11	1.06	.90	1.03	.93	.63
30-30.9	.90	.82	.90	.83	.85	.92	.76	.71	.75	1.11	1.08	1.03	1.13	1.08	.90	1.05	.95	.65
31-31.9	.92	.86	.92	.85	.87	.94	.78	.73	.77	1.13	1.10	1.05	1.15	1.10	.92	1.07	.97	.67
32-32.9	.94	.90	.94	.87	.89	.96	.80	.75	.79	1.15	1.12	1.07	1.17	1.12	.94	1.09	.99	.69
33-33.9	.96	.96	.96	.89	.91	.98	.82	.77	.81	1.17	1.14	1.09	1.19	1.14	.96	1.11	1.01	.71
34-34.9	.98	.98	.98	.91	.93	1.00	.84	.79	.83	1.19	1.16	1.11	1.21	1.16	.98	1.13	1.03	.73
35-35.9	1.00	1.00	1.00	.93	.95	1.02	.86	.81	.85	1.21	1.18	1.13	1.23	1.18	1.00	....	1.05	.75
36-36.9	1.02	1.02	1.02	.95	.97	1.04	.88	.83	.87	1.23	1.20	1.15	1.25	1.20	1.02	....	1.07	.77
37-37.9	1.04	1.04	1.04	.97	.99	1.06	.90	.85	.89	1.25	1.22	1.17	1.27	1.22	1.04	....	1.09	.79
38-38.9	1.06	1.06	1.06	.99	1.01	1.08	.92	.87	.91	1.27	1.24	1.19	1.29	1.24	1.06	....	1.11	.81
39-39.9	1.08	1.08	1.08	1.01	1.03	1.10	.94	.89	.93	1.29	1.26	1.21	1.31	1.26	1.08	....	1.13	.83
40 and over	1.10	1.10	1.10	1.03	1.05	1.12	.96	.91	.95	1.31	1.28	1.23	1.33	1.28	1.10	....	1.15	.85

Column 1—Effective October 17, 1938, by Standard Oil Co. of Indiana. By Gulf Refining Co., October 13, 1938. Carter Oil Co. schedule and prices same from 30° upward, but on lower gravities pays below 21° 60 cents, with 3 cents added for each degree up to and including 29-29.9°, effective October 13, 1938. Gulf Oil Corp. starts at below 25° 78 cents, October 13, 1938. Texas Co. schedule starts at 28-28.9° at 86 cents. Pure Oil Co. same as Standard of Indiana's schedule, effective October 14, 1938.

Column 2—Sinclair Prairie Oil Marketing Co. February 16, 1939.

Column 3—Magnolia Petroleum Co. effective October 12, 1938; Shell Petroleum Corp., October 22, 1938; Shell Oil Co., Inc., April 1, 1939.

Column 4—Effective December 3, 1938, by Humble Oil & Refining Co. in Central Texas. By Magnolia Petroleum Co. in East Central and in North and Central Texas, excepting that it starts at below 29° at 79 cents, effective December 3, 1938. Texas Co. in North and Central Texas, same as Magnolia's but effective October 12, 1938. Gulf Refining Co. same as Magnolia's, effective October 13, 1938. Sinclair Prairie Oil Marketing Co. same as Magnolia's, effective October 5, 1939. Stanolind Oil Purchasing Co., in Cooke and Montague counties, schedule starts at below 21°, 60 cents, with a 2-cent spread upward to 40° and over at $1, effective October 17, 1938.

Column 5—Standard Oil Co. of Louisiana, effective October 5, 1938. Met by Gulf Refining Co. October 13; met by Texas Co. October 12.

Column 6—Humble Oil & Refining Co., October 11, 1938.

Column 7—Humble Oil & Refining Co., effective December 3, 1938. Sinclair Prairie Oil Marketing Co., October 11, 1938. Texas Co. quotes "Panhandle sweet crude," beginning with 34-34.9°, at 84 cents, with 2-cent spread to 40° and over at 96 cents, and "Panhandle sour crude," 79 cents for 34-34.9°, with a top of 91 cents for 40° and over, effective October 12. Magnolia Petroleum Co. met Humble prices throughout, effective December 3. Gulf Refining Co. quotes "Panhandle sweet crude" at below 29°, 72 cents with a 2-cent spread, and a top price of 96 cents for 40° and above, and "Panhandle sour crude" below 29°, 67 cents, with a top of 91 cents for 40° and above effective October 13. Phillips Petroleum Co. schedule for sweet crude in Gray, Carson, and Hutchinson counties, starts at below 29°, 72 cents, with a spread of 2 cents up to 96 cents for 40° and over, effective February 7, 1939.

Column 8—Humble Oil & Refining Co., effective December 3, 1938. Sinclair Prairie Oil Marketing Co., October 11, 1938. Texas Co. quotes "Panhandle sweet crude" at 34-34.9°, 84 cents, with a top of 96 cents for 40 gravity, and "Panhandle sour crude" at 34-34.9°, 79 cents, with a top of 91 cents for 40° and over, effective October 12. Gulf Refining Co. quotes "Panhandle sweet crude" at below 29°, 72 cents, with a top of 96 cents for 40° and over and "Panhandle sour crude" at below 29°, 67 cents, with a top of 91 cents for 40° and above, effective October 13. Phillips Petroleum Co. schedule for sour crude in Carson, Moore, and Hutchinson counties, starts at below 29° at 67 cents, with a spread of 2 cents up to 91 cents for 40° and over, effective February 7, 1939.

Column 9—Humble Oil & Refining Co., effective October 11, 1938. Texas Co. schedule starts at below 26°, 65 cents, and ends at 36° and over at 87 cents, effective October 12. Gulf Refining Co. starts at below 26° at 65 cents and ends at 40° and over at 95 cents, effective October 13. Magnolia Petroleum Co. schedule starts below 25°, 63 cents, and ends at 40° and above at 95 cents, effective October 12. Sinclair Prairie Oil Marketing Co. schedule same as that of Magnolia, effective October 11, but revised on March 24, 1939, to stop at 36° and over at 87 cents. Stanolind Oil Purchasing Co. schedule same as that of Humble, effective October 11. Stanolind Oil & Gas Co. (Winkler County) starts at below 26°, 65 cents, with a 2-cent spread, and a top of 95 cents for 40° and above, effective October 11, 1938. Effective September 1, 1939, Shell Oil Co., Inc., posted Yoakum County crude, starting at below 20°, 53 cents, with 2 cents added for each degree up to 36° and over at 87 cents. Effective March 31 Atlantic Refining Co. added Gaines County to its price schedule.

Column 10—Humble Oil & Refining Co., effective October 11, 1938. Magnolia Petroleum Co., in Tomball, effective October 12.

Column 11—Effective October 2, 1939, by Humble Oil & Refining Co. in Texas Coast. By Sinclair Prairie Oil Marketing Co. in Texas Coast, October 3, 1939. By Texas Co. at $1.16 in Texas and Louisiana Coast, October 2, 1939, schedule stopping at 34° and over. By Sun Oil Co. in Texas and Louisiana Coast, October 2, 1939. By Gulf Refining Co. in Louisiana October 2, 1939, excepting that schedule stops at $1.16 for 34° and above. By Gulf Refining Co. in Texas, effective November 1, 1939.

Column 12—Effective by Humble Oil & Refining Co. October 2, 1939. By Sun Oil Co. in Anahuac, October 2, 1939. By Gulf Refining Co. in Anahuac, October 2, 1939. On November 1, 1939, Gulf Refining Co. applied these prices to Anahuac, Hull (New), Pierce Junction, Orange, Thompson (deep).

Column 13—Effective October 2, 1939, by Humble Oil & Refining Co. and Continental Oil Co. By Texas Co. up to 28° and over at $1.09 October 2, 1939. Atlantic adopted Humble price schedule November 7, 1939, in Refugio and applied it also to Greta.

Column 14—Effective October 2 by Humble Oil & Refining Co. By Sun Oil Co. in Mirando alone, stopping at 24-24.9° at 96 cents. By Stanolind Oil & Gas Co. in West Beaumont, alone, October 2, 1939. Gulf Refining Co. in West Beaumont, October 2, 1939. By Magnolia Petroleum Co. in Beaumont, October 2, 1939. By Texas Co. in Duval and Mirando, stopping at 28-28.9° at $1.09. Continental Oil Co. in Mirando and Duval, October 2, 1939.

Column 15—Effective October 2, 1939, by Texas Co.

Column 16—Magnolia Petroleum Co., effective October 12, 1938.

Column 17—Standard Oil Co. of Louisiana, effective October 23, 1939.

Column 18—Continental Oil Co., effective October 11, 1938.

siana, effective October 23, 1939, by Standard Oil Co. of Louisiana, below 25° 83 cents, 2 cents added for each degree up to 40° and over at $1.15.

Iowa, La., effective October 11, 1938, by Shell Petroleum Corp. and on April 1, 1939, by Shell Oil Co., Inc.: Below 18°, 75 cents; 18°-18.9°, 77 cents; 2-cent spread to 21°-21.9° at 83 cents; then a 3-cent spread to 26°-26.9° at 98 cents; then a 2-cent spread to 34° and above at $1.14.

Middle Western States

OHIO OIL CO.
(Effective June 8, 1939)

Illinois old fields	$0.95
Illinois basin	1.05
Princeton, Ind.	.95
Western Kentucky (June 9, 1939)†	.90
Birk City, Ky. (June 9, 1939)¶	.90
Corydon, Ky. (June 9, 1939)	.90
Greendale, Porter, Crystal and Wise, Mich. (Oct. 9, 1939)*‡	1.02
Buckeye, Bentley, Edenville, Beaverton, Mich. (Oct. 9, 1939)*	1.00
Freeman-Redding, Mich. (Oct. 9, 1939)‡	.97
Arenac, Mich. (Oct. 9, 1939)*	.82
West Branch, Mich. (Nov. 1, 1939)*	.85
Allegan-Kent and Ottawa, Mich. (Apr. 27, 1940)	1.08
Bloomingdale and Columbia, Mich. (Apr. 27, 1940)¶	1.08
Muskegon	1.00
Sherman and Freeman, Mich. (Oct. 9, 1939)‡	.97
Eastern Kentucky:	
Big Sandy River (June 9, 1939)†	1.02
Kentucky River (June 9, 1939)†	1.10

*Simrall Corp. †Ashland Refining Co. ‡Pure Transportation Co. §Imperial Refining Co. ¶Sohio Oil Co. Bloomingdale posted by Tri-Lakes Corp. Kent County by Naph-Sol Refining Co. Effective Feb. 1, 1940, Sohio Corp. posted $1.05 per barrel in the Centralia, Salem, and Louden fields for crude up to 30 bbl. per well per day. In the McClosky lime fields of Clay, Wayne, and Noble counties it posted $1.05 per barrel up to 40 bbl. per well per day. For all oil produced in exces of the above figure in any of the fields named it posted $1 per barrel. On May 25, 1940, Sohio posted $1 per barrel in the Griffin field in Gibson County, Indiana, and Wabash County, Illinois, and the North Griffin, South Griffin, Phillipstown, New Harmony and Irons in Wabash and White counties, Illinois. In the Salem field in Illinois, effective March 13, Canyon Pipe Line posted $1.05 per barrel for the first 40 bbl. per well and 90 cents per barrel for oil in excess of 40 bbl. per well. Allegan, Kent, and Ottawa posted by Commonwealth Pipe Line Co.

Rocky Mountain States

Dry Creek, Wyo. (Oct. 11, 1938)*	$0.92
Elk Basin, Wyo. (Oct. 11, 1938)*†	.90
Grass Creek, light, Wyo. (Oct. 11, 1938)*†	.90
Grass Creek, heavy (Oct. 11, 1938)†	.40
Lance Creek, Wyo. (Oct. 11, 1938)*	.77
Rock Creek, Wyo (Oct. 11, 1938)*	1.00
Iles, light, Colo. (Oct. 11, 1938)†	.98
Iles, heavy, Colo. (Oct. 11, 1938)†	.92
Dutton Creek, Wyo. (Oct. 11, 1938)†	See note below
Frannie, light, Wyo. (Oct. 11, 1938)†	$0.55
Frannie, heavy, Wyo. (Oct. 11, 1938)†	.42
Hamilton dome, Wyo. (Oct. 11, 1938)†	.35
Midway, Wyo. (Oct. 11, 1938)†	See note below
Salt Creek Tensleep Crude, Wyo. (Oct. 11, 1938)†	$0.646
Salt Creek (Oct. 11, 1938)	See note below
Canon City, Colo. (Oct. 11, 1938)‡	.$0.90
Florence, Colo. (Oct. 11, 1938)‡	.90
Cut Bank, Mont. (Jan. 1, 1940)	1.00
Kevin-Sunburst, Mont. (Jan. 1, 1940)	.80
Cat Creek, Mont. (Oct. 11, 1938)‡	1.10
Big Muddy, Wyo. (Oct. 11, 1938)‡	.98
Lance Creek, Wyo. (Oct. 11, 1938)‡	.77
Lea County, New Mexico	See West Texas gravity schedule‡
Artesia, Jackson and Maljamar	See gravity table‡
Fort Collins and Wellington, Colo.	See note below
Eddy County, New Mexico (Oct. 11, 1938)§	$0.77

*Ohio Oil Co. †Stanolind Oil & Gas Co. ‡Continental Oil Co. §Sinclair Prairie Oil Marketing Co.

Dutton Creek and Salt Creek Tensleep crudes start at below 29°, 86 cents, 2-cent spread up to 40° and over at $1.10. Salt Creek crude, excepting Tensleep, takes Standard Oil Co. of Indiana's Oklahoma-Kansas prices. Stanolind Oil & Gas Co., effective Oct. 11, discontinued posting prices in Greybull-Torchlight, Wyoming, and Hogback and Hospah, New Mexico. In Fort Collins and Wellington, Colorado, effective Oct. 11, 1938, by Continental Oil Co. 28-28.9°, 81 cents, with 2 cents added for each degree up to 40° and over at $1.05. Cut Bank and Kevin-Sunburst posted by Producers Refining Co.

Eastern States

SOUTH PENN OIL CO.
(Effective June 18, 1940)

Pennsylvania Grade oil in National Transit lines (Bradford field)	$2.25
Pennsylvania Grade oil in Southwest Pennsylvania lines	1.90
Pennsylvania Grade oil in Eureka Pipe Line lines	1.84
Corning grade oil in Buckeye Pipe Line Co. line (Nov. 4, 1939)	1.12

TIDE WATER ASSOCIATED OIL CO. and NEW YORK TRANSIT CO.
(Effective June 18, 1940)

Bradford, Pa.	$2.25
Allegany, N. Y.	2.25

PENNZOIL CO.
(Effective June 18, 1940)

Group A	$2.18
Group B	2.17
Group C	2.16
Group D	2.15
Group E	2.13

PURE OIL CO.
(Effective June 18, 1940)

West Virginia	$1.84

QUAKER STATE OIL REFINING CORP.
(Ellective June 18, 1940)

Southern Ohio (Pa. Grade):	
In Buckeye Pipe Line lines	$1.80
In Eureka Pipe Line Lines	1.84

Canada

ONTARIO
(Nov. 6, 1939, by Imperial Oil, Ltd.)

Petrolia	$2.10
Oil Springs	2.07
Bothwell	2.10

TURNER VALLEY
(Jan. 5, 1938, by Imperial Oil, Ltd.)

Clear naphtha and discolored naphtha, 65° and higher	$2.14
Discolored naphtha and crude oil, 40°-40.9°	1.14
Increasing 2 cents for each degree gravity with top price for 64°-64.9°	1.62

These prices f.o.b. producers' field tankage.

Mississippi Wildcats

(Continued from Page 74)

and shut off sulfur wtr.; bailed S.O. and some gas; T.D. 3,530 ft.; pulled and recmtd. 7-in. csg. 1,250 ft.; will perf. and acd. horizons at 360-570 ft. and 1,150-1,240 ft.; S.D.; W.O.; acd.

Jefferson Davis County

J. W. Richardson's No. 1 M. Berry, C SW NE Sec. 15-9n-19w. Drlg. sd. 1,326 ft.

Kemper County

Crabb, Manning et al's No. 1 W. T. Caldwell, NW SE Sec. 25-9n-15w. 10¾-in. csg. 86 ft.; set 6-in. csg. 1,320 ft.; T.D. 1,640 ft.; acid. with 1,000 gal.; cg. 3,506 ft.

Monroe County

Willmut Gas & Oil Co.'s No. 1 Rye, 300 ft. N and E C Sec. 22-15n-17e. Set 10¾-in. csg. 625 ft.; drlg. hd. bl. shale 2,162 ft.

Oktibbeha County

Oktibbeha Oil & Gas Co.'s (Nick Shiarella) No. 1 L. L. Murphy, NE NE NW Sec. 28-17n-12e. Drlg. hd. L. 3,431 ft.

Perry County

Fohs Oil Co.'s No. 1 Bond Lbr. Co., 907.5 ft. N, 660 ft. W, C Sec. 17-1s-11w. Loc.

Scott County

E. L. Martin's No. 1 Newell Mineral Lse. Co., 660 ft. W, 330 ft. S, NE cor. Sec. 5-6n-7e. Spudded.

Smith County

W. O. Allen's No. 1 Tom Henry, C W½ SW Sec. 4-7n-4w. Drlg.

Haynes B. Owenby Drlg. Co.'s No. 1 State, C SE NE Sec. 6-2n-9e. Set 10¾-in. csg. 510 ft. (cor.); cg. 5,860 ft.

Wayne County

W. E. Stewart's No. 1 Cora McRae, NW SW Sec. 25-24n-6e. Loc.

Tri-County Oil Co.'s No. 1 Jones, C SW SE Sec. 33-8n-7w. Drk.

Yalobusha County

J. E. Green's No. 1 Walter-Goldman, 247 ft. SW cor., SE NW Sec. 23-25n-6e. Drlg. 475 ft.; cd. sds. 260-320 ft. and 400-68 ft.; T.D. 1,375 ft.; S.D.; plan to move in heavier equip.

Yazoo County

Leon Dunn's No. 1 H. H. Pepper, 1,024.5 ft. E, 330 ft. S NW cor. Sec. 26-12n-2e. Set 9⅝-in. 611 ft.; drlg. 3,430 ft.

Leon Dunn's No. 2 H. H. Pepper, 1224 ft. E, 990 ft. S NW cor. Sec. 26-12n-2e. Set 9⅝-in. csg. 611 ft.; drlg. 4,026 ft.

Exchange Oil Co.'s No. 1 T. A. Bennett, SW SW SE Sec. 28-12n-2e. Set 10¾-in. csg. 513 ft.; cg. 5,110 ft.; no shows.

Exchange Oil Co.'s No. 4 Wilburn, C NE SE NE Sec. 31-12n-3e. Cd. oil sd. 4,858-64 ft.; set 7-in. csg. 4,856 ft.; drld. plugs and swbg.

Hassie Hunt's No. 2 Lammons, C SW NE Section 1-10-3. Drlg. sh. 4,836 ft.

Hill & Hill's No. 1 W. A. Montgomery, C SE SW SE Sec. 24-12n-2e. Set 10¾-in. csg. 920 ft.; slight odor oil in cuttings 4,843-47 ft.; cd. 4,866-4,912 ft.; rec. sh.&sd., salty taste; drlg. 5,036 ft.

E. C. Johnston's No. 4 Brumfield, Sec. 2-10-3. Drlg. 2,809 ft.

Slick-Urschel Oil Co.'s No. 3 T. B. Slick, 330 ft. N, 660 ft. W, SE cor. Sec. 11-10-3. M.I.M.

C. L. Thompson, Rowan & Hope's No. 1 Joe Elliott-Mrs. Mary Edwards, 900 ft. S. 2,310 ft. W of NE cor. Sec. 30-10n-3w. Drlg. sh. 6,097 ft.

Union Prod. Co.'s No. 2 Cesana, 774.8 ft. N, 619.1 ft. E SW cor. Sec. 18-10-2; set 16-in. csg. 32 ft.; 10¾-in. csg. 613 ft.; T.D. 758 ft.; D.S.T. 4,457-4,817 ft.; 10 min., ⅝-in. chks., top and bttm.; rec. 2,145 ft. oil and 30 ft. drlg. fluid with brackish taste; T.D. 4,963 ft.

Union Prod. Co.'s No. 2 Partridge, SE SE Sec. 1-10-3. Drlg. gr. sh. 3,923 ft.

Union Prod. Co.'s No. 4 J. M. Twiner, C NE NW Sec. 1-10-3. Set 10¾-in. csg. 593 ft.; D.S.T. 4,832-96 ft.; rec. 200 ft. oil and 150 ft. oil and mud; drlg. limy sh. 5,036 ft.

Union Prod. Co.'s No. 5 Twiner, 2,019 ft. S, 2,118 ft. W, NE cor. Sec. 1-10-3. M.I.M.

ALABAMA

Marion County

Seaboard Oil Co.'s No. 1 Clark et al., 360 ft. W, 660 ft. N, SE cor. SE SW Sec. 28-11s-14w. Shot 638-45 ft. with 130 qt. nitroglycerin; crooked hole; skdd. over; drlg. L.&sh. 577 ft.

Mobile County

W. L. McClanahan's No. 1 J. A. Stafford 300 ft. N, 150 ft. W SE cor. NW SW Sec. 24-7s-3w. Set 10-in. csg. 750 ft.; reported S.G. 3,475-90 ft. and S.O. 4,550-72 ft.; ran electrical log 5,590 ft.; T.D. 6,541 ft.; ran electrical survey; S.D.

STANDARD OIL CO. OF CALIFORNIA

Crude-oil prices at the well effective February 1, 1940

(All gravities above those quoted take highest price offered in that field)

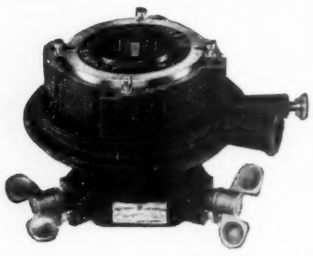
Gravity—	Signal Hill (Long Beach) (El Segundo)	Wilmington	Seal Beach	Huntington Beach	Inglewood	Playa Del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley-Canal	Cole's Levee Richfield Western	Mountain View	Elk Hills	Buena Vista, Midway-Sunset, Lakeview	Lost Hills	Coalinga	Kettleman Hills
14-14.9	$.65	$.60	$.64	$.63	$.64	$.65	$.61	...	$.65	$.61	$.61	$.62	$.63	...	...	...	...	$.60	$.60	$.60	$.60	...
15-15.9	.65	.60	.64	.63	.64	.65	.61	...	.65	.61	.61	.62	.63	...	...	...	...	.60	.60	.60	.60	...
16-16.9	.65	.60	.64	.63	.64	.65	.61	...	.65	.61	.61	.62	.63	...	...	...	...	.60	.60	.60	.60	...
17-17.9	.65	.62	.64	.63	.68	.65	.61	...	.65	.61	.61	.62	.63	...	...	...	...	.60	.60	.60	.60	...
18-18.9	.65	.64	.64	.63	.71	.65	.65	...	.68	.61	.61	.62	.63	...	...	...	...	.60	.60	.60	.60	...
19-19.9	.69	.69	.64	.67	.75	.70	.69	...	.72	.61	.65	.62	.63	...	...	...	$.60	.64	.64	.64	.61	...
20-20.9	.73	.73	.64	.72	.79	.76	.74	...	.75	.65	.69	.62	.67	...	...	...	.60	.69	.69	.69	.62	...
21-21.9	.78	.78	.64	.76	.82	.81	.78	...	.79	.69	.73	.62	.72	$.63	...	...	.64	.74	.74	.74	.66	...
22-22.9	.82	.82	.69	.81	.86	.86	.82	...	.82	.73	.77	.66	.76	.63	...	...	.68	.79	.79	.78	.70	...
23-23.9	.86	.86	.75	.85	.89	.92	.86	$.71	.86	.78	.82	.71	.81	.67	...	...	.71	.84	.84	.82	.74	...
24-24.9	.90	.90	.80	.90	.93	.97	.90	.77	.89	.82	.86	.75	.85	.72	...	...	.75	.89	.89	.86	.78	...
25-25.9	.95	.95	.86	.94	.96	1.02	.95	.82	.93	.86	.90	.80	.89	.77	...	...	.79	.94	.94	.90	.82	...
26-26.9	.99	.99	.91	.99	1.00	1.08	.99	.88	.96	.90	.94	.84	.94	.82	...	...	.83	.99	.99	.95	...	...
27-27.9	1.03	1.03	.97	1.03	1.04	...	1.03	.94	1.00	.94	.98	.89	.98	.87	$.83	$.92	.87	1.04	1.04	.99	...	...
28-28.9	1.07	1.07	1.02	1.07	1.07	f.o.b.	1.07	.99	1.03	.98	...	.93	1.02	.91	.86	.96	.91	1.09	1.09	1.03	...	...
29-29.9	1.10	1.10	1.07	1.11	1.10	our	1.10	1.04	1.06	1.02	...	.98	1.06	.96	.90	.99	.95	1.14	1.14	1.07	...	...
30-30.9	1.14	1.14	1.12	1.15	1.14	pipe	1.14	1.09	1.09	...	...	1.02	1.10	1.01	.94	1.02	.99	1.19	1.19	1.11	...	...
31-31.9	...	...	...	...	1.17	line	1.17	1.14	...	...	...	1.07	1.14	1.05	.98	1.06	1.02	1.24	1.24	...	...	...
32-32.9	...	...	...	...	1.20	...	1.20	1.19	...	...	...	1.11	1.18	1.09	1.02	1.09	1.06	1.29	1.29	...	...	...
33-33.9	...	...	...	...	...	...	...	1.24	...	...	...	1.15	1.22	1.14	1.06	1.13	1.10	1.34	1.34	...	...	$1.12
34-34.9	...	...	...	...	...	...	...	1.29	...	...	...	1.20	1.26	1.19	1.10	1.16	1.14	...	...	...	...	1.17
35-35.9	...	...	...	...	...	...	...	1.34	...	...	...	1.24	...	1.23	1.14	1.20	...	...	...	...	...	1.21
36-36.9	...	...	...	...	...	...	...	1.39	...	...	...	1.28	...	1.27	1.18	1.23	...	...	...	...	...	1.25
37-37.9	...	...	...	...	...	...	...	1.44	...	...	...	1.33	...	1.31	1.22	1.26	...	...	...	...	...	1.29
38-38.9	...	...	...	...	...	...	...	1.49	...	...	...	1.37	...	1.36	1.25	1.30	...	...	...	...	...	1.33
39-39.9	...	...	...	...	...	...	...	1.54	...	...	...	1.42	...	...	1.29	1.34	...	...	...	...	...	1.38
40-40.9	...	...	...	...	...	...	...	1.59	...	...	...	1.46	...	...	1.33	1.37	...	...	...	...	...	...
41-41.9	...	...	...	...	...	...	...	...	...	...	...	1.50	...	...	1.37	1.40	...	...	...	...	...	...
42-42.9	...	...	...	...	...	...	...	...	...	...	...	1.54	...	...	1.41	1.44	...	...	...	...	...	...
43-43.9	...	...	...	...	...	...	...	...	...	...	...	1.59	...	...	1.45	1.47	...	...	...	...	...	...
44-44.9	...	...	...	...	...	...	...	...	...	...	...	1.63	...	...	1.49	1.51	...	...	...	...	...	...
45-45.9	...	...	...	...	...	...	...	...	...	...	...	1.67	...	...	1.53	1.54	...	...	...	...	...	...
46-46.9	...	...	...	...	...	...	...	...	...	...	...	1.71	...	...	1.57	1.57	...	...	...	...	...	...
47-47.9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.61	...	...	...	...	...	...	...
48-48.9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.64	...	...	...	...	...	...	...

For Newhall, McKittrick, Kern River, Round Mountain and Kern Front crude, Standard posts 60 cents per barrel for all grades. For Elwood Terrace crude (free on board ship), 33-33.9, $1.21, with 4 cents added for each degree up to and including 37° and over at $1.37; Wheeler Ridge crude, 19 to 21.9°, 60 cents; 22-22.9, 63 cents; 23-23.9, 67 cents; 24-24.9, 71 cents; 25° and over, 75 cents. On May 18, Union Oil Co. adopted Standard of California prices in all fields in which they both purchase.

EQUIPMENT PROGRESS...

Simpact Ratchet Theader Makes Job of Thread Cutting Easier

The Toledo Pipe Threading Machine Co., Toledo, Ohio, manufacturer of pipe tools and power pipe machines, announces the new Toledo Simpact self-contained 1 to 2-in. ratchet threader. This new tool is said to cut perfect tapered threads with less effort. It uses high-speed steel dies. These are quickly changed from one size to another by pushing the size selector button and slipping the dies into the proper steps, saving approximately half the time usually required for changing sizes, according to the manufacturer.



The dies are backed by tapered steps so that smooth, long tapered threads are said to be assured. A three-jaw rear gripping device is employed. It is equipped with three broad-faced chuck jaws, graduated guide posts, and large winghead thumb screws, to assure easy, positive, accurate centering of the tool on the pipe. The 24-in. tubular steel handle is strong and light, and although the tool is lighter in weight, no lightweight die castings are used in its construction. The dies are deep-throated and may be resharpened many times.

Campbell's Extensible Gage Strips Can Be Added to, Foot by Foot

A new type of gage strip which can be added to, foot by foot, to fit any height, for gasoline, oil, and water tanks, has been developed by J. A. Campbell Co., 645 East Wardlow Road, Long Beach, Calif. The strips are in units of 1 ft. each, locked together by foot-numeral inserts. The numerals are clearly visible at a distance.

These strips are cast from a zinc-base alloy in chrome-molybdenum-steel dies under pressure. Each strip is 2 by 12 in., ⅛ in. thick, and is resistant to weather conditions. Numerals and graduations are raised. The strips can be mounted on a wooden board or metal, fastened to the tank, alongside the gage glasses.

Office Changes Announced

The Houston, Tex., office of the Chicago Bridge & Iron Co. has been moved from 2919 Main Street to 918 Richmond Avenue. Its personnel, formerly restricted to sales work, has been augmented by the transfer of S. C. Hamilton from Birmingham, Ala., to Houston and by the opening of a new erection division office to supervise field work in the Southwest. W. T. Hudson is in charge of the erection office, assisted by Dan O'Laurie. The Dallas, Tex., office has been moved from the Liberty Bank Building to the Petroleum Building. R. A. Williams has been transferred from Chicago to Dallas.

Western Machinery Catalog Ready

The Western Machinery Co., 306 West Second Street, Wichita, Kans., supplier and manufacturer of chemical and biological apparatus, commercial chemicals, general laboratory supplies, and oil-testing apparatus, has published its general catalog No. D-1, which covers the company's complete line of oil-testing equipment and laboratory supplies. This catalog, conveniently indexed, contains 756 pages of more than 3,000 illustrations. Copies are being sent to individuals in the petroleum industry who specify laboratory equipment and supplies.

TRADE LITERATURE

AXELSON MANUFACTURING CO., P. O. Box 98, Vernon Station, Los Angeles, Calif.—Bulletin, tubing and rod types of full liners and full barrel tubes.

AIR REDUCTION, 60 East Forty-second Street, New York.—Catalog 103, Airco electric welding products, describing complete line of Airco electrodes and Wilson electric welding machines.

BAKER OIL TOOLS, INC., Huntington Park, Calif.—Cement Retainer News Service, featuring article telling how the Baker cement retainer is adaptable to many kinds of repair work.

ALLIS-CHALMERS MANUFACTURING CO., Milwaukee, Wis.—Current issue Allis-Chalmers Electrical Review.

WICHITA ENGINEERING CO., Wichita Falls, Tex.—Bulletin, Wichita roller-drive kelly bushing.

B. F. GOODRICH CO., Akron, Ohio.—Condensed 24-page catalog, mechanical rubber goods, with engineering data and guide to selection.

MERCO-NORDSTROM VALVE CO., 400 North Lexington Avenue, Pittsburgh, Pa.—Bulletin V-109, condensed list covering all types and sizes of Nordstrom valves.

ELASTIC STOP NUT CORP., 2332 Vauxhall Road, Union, N. J.—Bulletin explaining construction and self-locking action of Elastic stop nuts.

CHAIN BELT CO., Milwaukee, Wis.—Bulletin, Rex oil-field chains; bulletin, "How to Make Oil-Well Chains Last Longer."

GEO. D. ROPER CORP., Rockford, Ill.—Catalog 939, Roper rotary pumps, with helpful engineering data.

THE BRISTOL CO., Waterbury, Conn.—Bulletin 543, recording voltmeters and ammeters; Bulletin 555, portable recording voltmeters and ammeters; Bulletin 524, industrial glass thermometers.

Axelson Completes Its New and Modern Store in Bakersfield

A new modern field store has been built by the Axelson Manufacturing Co. at Twenty-eighth and L Streets, Bakersfield, Calif. It is of stucco construction,

50 by 70 ft. and one story in height. The latest type of pump-assembly equipment has been installed. Closed shelving protects pump fittings from moisture and dust and an overhead crane facilitates handling of heavy equipment. Stanley Morish will be in charge of the Bakersfield store.

One of the novel features is an outdoor washing rack of concrete with power sprayers for cleaning dirt and sludge from pumps and fittings. The new store involves an investment of approximately $10,000. The building was designed and supervised by Axelson's Los Angeles engineering department.

Regan Distributes Bettis Protectors

Regan Forge & Engineering Co., 1502 Maury Street, Houston, Tex., has been appointed the exclusive distributor of Bettis drill pipe and casing protectors and stabilizers for the Mid-Continent and Gulf Coast fields. The appointment was made by the Bettis Rubber Co. of Los Angeles, Calif. Under the direction of R. A. Hill, manager of the Mid-Continent division, Bettis installation service is now made available throughout this area. For the installation of Bettis protectors the Regan organization has developed a service trailer which accommodates various installation tools and equipment. The first of these trailers is operating in Texas and additional units will be available soon.

NEW PLANT IN PHILADELPHIA INCREASES S K F CAPACITY

Here is the No. 2 plant that will increase the capacity of S K F Industries, Inc., Philadelphia, Pa., in the production of more than 6,000 types and sizes of ball

and roller bearings. This modern plant, located on the Pennsylvania Railroad at Bridge Street, is the third of S K F's Philadelphia factories.

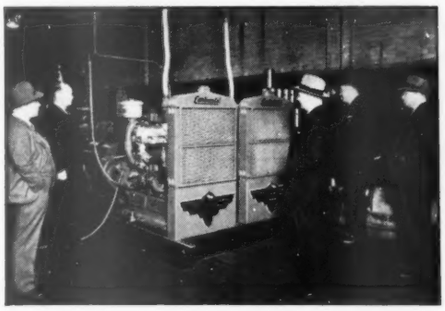
The one-story, saw-tooth, daylight-type building, containing 226,000 sq. ft. of floor space on a plot of 15 acres of beautifully landscaped lawns, will be devoted exclusively to the manufacture of antifriction bearings.

Executive, sales, and sales-engineering offices will remain at plant No. 1 at Front Street and Erie Avenue, site of the old Hess-Bright Manufacturing Co. founded in 1904. Here wing after wing has been added until practically all of the available manufacturing space has been utilized.

The Atlas Ball Co., a subsidiary, will continue to manufacture balls at Glenwood and American streets. All three plants are conveniently located with reference to each other.

Continental Motors Officials Visit New Electric-Generator Plant

The picture shows the new 100,000-watt electric generator plant of Continental Motors Corp., Muskegon, Mich., being inspected by company officials. Left to

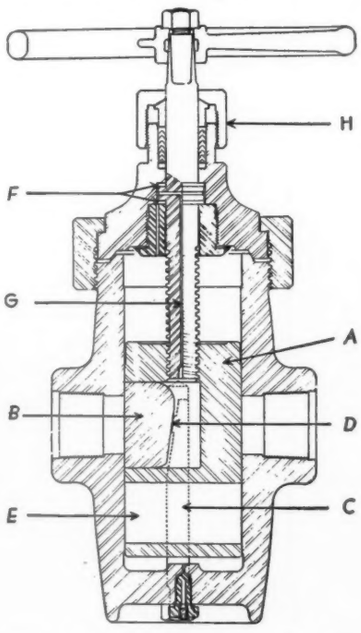


right, C. J. Reese, president; Earl Ginn, chief engineer; B. F. Tobin, Jr., executive vice president and secretary; L. B. Kalb, vice president in charge of engineering and manufacturing; and H. W. Vandevan, treasurer.

This new 100-kw. (125-kva.) plant is powered with two Model 33R overhead-valve-type Continental Red Seal engines. The plant is self-contained for full automatic operation, and the actual load requirements control the starting and stopping of engines. When the operating load is within 50 per cent of its peak, only one engine is operating. When the load is increased to a point above the capacity of this one engine, the second engine automatically cuts in and picks up its share of the load. The engines are arranged for operation on natural gas, but can also be supplied with straight gasoline carburetion. The drive from the two engines is taken through individual automatic or free-wheeling clutches to a silent-chain transmission unit, whence it passes through a common takeoff shaft to the direct-coupled generator. Each engine has 501 cu. in displacement and develops 100 hp.

O-C-T Gate Valve Employs New Way of Sealing, Lubrication

Oil Center Tool Co., Houston, Tex., is now marketing its Type V-3 double-seal cylinder gate valve which, according to its designers, A. J. Penick and K. T. Penick, employs a new means of sealing and lubrication.



The gate (*A*) is cylindrical and travels in the round bore of the valve body. A tapered sealing segment (*B*) is inset in one side of the gate piston. A taper is machined on the back side of this segment to mate with the taper on two wedge pins (*C*), which are attached to the bottom of the valve body and which extended into the gate piston. Upon closing the gate, the tapered side of these pins contacts the taper on the sealing segment at its center point (*D*), resulting in an equalized outward thrust against the sealing segment in one direction and against the gate piston in the opposite direction. Thus, the convex sealing surfaces of both the segment and piston are forced into sealing contact with the inside wall of the valve body.

A flow way, or conduit (*E*), is drilled through the lower part of the valve piston, which is raised opposite the flow outlets upon opening the valve. This eliminates the possibility of sand or other foreign matter accumulating in the valve body.

Upon opening the valve, grease is forced to the outside of the thrust bearing (*F*) through passages drilled through the retainer nut. Closing the valve forces lubricant to the inside of the thrust bearing by means of a passage (*G*) drilled through the gate stem. An efficient seal around the gate stem is provided by V-type graphited asbestos packing in a stuffing box (*H*) above the bonnet. The entire valve is made of alloy steels particularly suited for this purpose.

Pittsburgh Equitable Gas-Pressure Regulator Made for 1,001 Uses

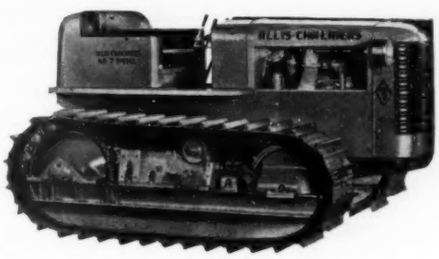
The Pittsburgh Equitable Meter Co., 400 North Lexington Avenue, Pittsburgh, Pa., has rounded out its line of equipment for gas-pressure control with the EMCO "1001" regulator. This device is claimed by the manufacturer to have a "thousand and one" types of application. It is also stated that through its use it is possible to control pressure with a high degree of accuracy for any outlet setting from 2 oz. up to 20 lb., having rates of flow well in excess of the capacities normally transmitted through 2-in. piping.

This regulator employs a method of diaphragm loading not previously available on medium-size and small regulators. A pilot loading system for diaphragm control is incorporated which, it is said, assures the movement of the main operating diaphragm with the slightest change in the control pressure. It is claimed that this principle of control assures maintenance of the desired pressure at a definite and unvarying amount from minimum flow to the maximum capacities which can be obtained under the existing pressure conditions, and that the lockup characteristics are exceptional.

This regulator is designed to provide accurate control for installations having both small and large flow rates, where supply pressures ranging up to 150 lb. must be reduced to 20 lb. or less. In this category are large gas appliances, boiler plants and industrial heat-treating furnaces.

Allis-Chalmers Adds Third Model To Its Line of Two-Cycle Tractors

Announcement by Allis-Chalmers Manufacturing Co., Milwaukee, Wis., of its 54-hp. Model HD 7 brings its line of two-cycle General Motors diesel-powered tractors



to three models. The others are the 79-hp. HD 10 and the 108-hp. HD 14.

In addition to the low fuel consumption and smoothness of operation of its full diesel engine, the HD 7 offers all of the other money-saving features of its big brothers.

Because of their heat-conducting quality, Velvetouch bimetallic clutches and brakes last longer, require less maintenance and speed up tractor operation. The positive-seal truck wheels and idlers used exclusively on the Allis-Chalmers tractor line require lubrication only once each 200 hours of operation. Less lubricant is used during the life of the tractor and servicing is converted into dirt-moving time. Another important feature is the new track-release spring mechanism, which reduces wear on tracks and prevents unnecessary strain on other tractor parts.

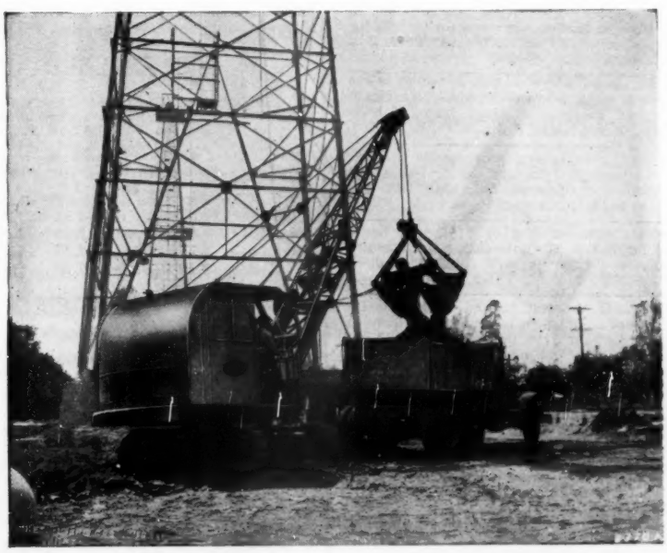
BUSINESS NOTES

The Refinery Supply Co. of California, Los Angeles, has engaged Harry Everard as consulting engineer in charge of all engineering and construction work. N. E. Bunch has been made Los Angeles manager. Changes have been made in the tank coating contracting department under L. W. Stalcup to take care of new business.

Howard F. Stover, secretary-treasurer of the Gaso Pump & Burner Manufacturing Co., Tulsa, and H. A. Wienecke, Jr., sales engineer on the Gaso staff, spent last week in the Illinois oil fields.

BANTAM WEIGHTS PERFORM WIDE RANGE OF OIL-FIELD JOBS

The Mojave Construction Co. operates two P&H Bantam-Weight excavators in the oil fields. The accompanying photograph shows one of the machines digging a slush pit in Montebello, Calif. These P&H machines, of ½-yd. capacity, manufactured by Harnischfeger Corp., Milwaukee, Wis., are a type of equipment in wide use in the oil fields because of the flexibility of their operation. The Mojave company's machines were used, for example, for derrick erection, in addition to other jobs.



The Bantam Weights are transported from one job to another on their own trailers, making it possible to cover a lot of territory in a short time. Under their own power, they move on "grouser" type crawlers, which enable them to maneuver on many kinds of terrain. Using standard attachments, they are quickly converted in the field for service as shovels, draglines, backfillers, cranes, trench hoes or pile drivers.

Operators of these machines use them to erect derricks, trench for pipes, place pipes in position, refill, etc. In short, a machine like the Bantam Weight, according to the manufacturer, can do practically all the excavation work involved in construction activities around an oil-field setup.

CLASSIFIED ADVERTISING

Patent Attorneys

PATENTS — TRADE MARKS
All cases submitted given personal attention.
Form "Evidence of Conception" with instructions for use and "Schedule of Government and Attorney's Fees"—FREE.
LANCASTER, ALLWINE & ROMMEL
Patent Law Offices
418 Bowen Bldg., Washington, D. C.

J. PRESTON SWECKER
PATENT LAWYER
INFRINGEMENT LITIGATION
Patents, Searches, Opinions, Trade Marks
OFFICES:
311 Panhandle Bldg., Wichita Falls, Tex.
National Press Bldg., Washington, D. C.

CECIL L. WOOD
PATENT LAWYER
Patents, searches and opinions
Infringement practice
Experience in Oil Equipment
323-324 Insurance Bldg., Fort Worth, Tex.
212 Kellogg Building, Washington, D. C.

Leases and Drilling Blocks

LEASES—East Texas, La., South Ark. 20 acres up, dollar acre up.—Owners—Address Attorney, Box 1122, Little Rock, Ark.

BROKERS and SALESMEN
A complete SERVICE. EXPERTS in every department of the Oil Business at your SERVICE; a REAL SET-UP. The best opportunity ever offered you. Leases in large or small lots at
WHOLESALE PRICES
Write today and get started right.
OIL BROKERS EXCHANGE
Santa Fe, New Mexico.

CRANE-WARD County 20 ac. cheap in fee, under Magnolia lease. J. G. SMITH, 215 Littlefield Bldg., Austin, Texas.

CRANE CO., oil possibilities, cheap fee land, 3 mi. E Ward Gulf-Western drilling. J. G. Smith, 215 Littlefield Building, Austin, Texas.

SPECIALIZED Geophysical investigations conducted for petroleum promise. In touch with many opportunities to and for development of drilling blocks. P. O. Box 364, Fort Worth, Texas.

WE make oil and gas surveys; latest method; no guesswork; reasonable charge; contract shallow drilling; have Kansas leases. Lovejoy Co., 516 E. 12th, K. C., Mo.

HAVE proven acreage, 5 sands to 1400 ft. checkerboard for drilling or liberal allowance for financial aid. 2540 NW 15, Oklahoma City, Okla.

PARTNER join me on $1 for $1 basis drilling 160 A. Shallow Gas, near production. Gas Contd. 6c 1000 ft. Cost to drill well $3,000. Box 93, Tulsa, Okla.

80-ACRE lease old settled production in Okmulgee County, Okla., for sale by owner. Clearing about $150 per month. $8000 to $10000 worth major equipment. About same production level for 8 years with no additional development. Additional locations. P. O. Box 1134, Tulsa, Oklahoma.

SCATTERING SECTIONS OIL AND MINERAL LANDS in several West Texas counties, ripe for development. Will sell or lease reasonably. Would cooperate liberally in equipment and financing. STRATTON, Pecos, Texas.

If we do not maintain a classification exactly suited to the type of advertisement you wish to run we shall be glad to create a fitting one.

Classified Department.

Leases and Drilling Blocks

FOR SALE Oil and gas leases and small production located in Kentucky shallow field, and leases located in Clay County, Tenn. Have for sale two tracts of proven Fluorspar and Zinc deposits; reports furnished on request. W. P. Harley, Bowling Green, Kentucky.

NEW MEXICO
STATE OIL AND GAS LEASES
40 acres and multiples thereof. In the Hot Spots. Buy direct. Save those dollars. No middle man to pay; no salesman to bother you! Twenty years in the business without a complaint. Write for information.
HARRY S. WRIGHT
New Mexico State Lessee
Wright Bldg., Farmington, New Mexico

WEST TEXAS OIL LEASES
AND ROYALTIES
If you wish to buy or sell producing or non-producing oil leases or royalties located in West Texas or Eastern New Mexico, Address:
AMERICAN NATIONAL BROKERAGE CO.
Post Office Box 516
Levelland, Texas.

PICKERING LUMBER CORPORATION
Standard, California
(and Kansas City, Mo.)

Owners of 140,000 acres (Fee and Minerals) in Sabine and Vernon Parishes, Louisiana, and Sabine, Shelby and San Augustine Counties, Texas.

Announce the appointment as agent, for lease and sale of these properties.

F. H. FORD
SLATTERY BUILDING,
SHREVEPORT,
LOUISIANA

WELL LOGS. Drillers' logs of approximately 4,000 wells drilled in New Mexico are available from Well Log Division, New Mexico Bureau of Mines & Mineral Resources, Socorro, New Mexico. Write for price list C.

Leases and Drilling Blocks

WANTED: Reliable partner to carry half interest 240 acre lease, Kentucky field. 650 to 700 ft. Several wells in area; oil and gas. Others drilling; locations staked for more. Ready market for gas; grand opportunity for 42-gravity oil. Address 907 S.E. Third St., Evansville, Ind.

IMMEDIATE delivery, large or small tracts on Lincoln Fold, North Missouri. Ten year, 25-cent rental, all close around five wells now drilling. Price depending on location. J. W. Eddington, Kirksville, Mo.

BUYING, SELLING and HANDLING oil production, proven, semi-proven, wildcat royalties and leases, drilling blocks, lands and large loans to owners of these properties. Inspecting and estimating values is and has been my business at this place thirty years. See or write me at Box 13, Alanreed, Gray Co., Texas. E. B. Reeves.

TEN year leases covering four structures, Ky-Tenn shallow field; 10 cent rentals, no drilling obligations, very shallow production, no proration, good roads. N. M. Sauls, Geologist, Cookeville, Tenn.

NEW MEXICO
Oil and Gas Leases and Royalties.
ROY G. BARTON, Hobbs, N. M.

ROCK asphalt mine prospect, Uvalde County; will sell or lease, favorable terms. Lewis Smyth, Uvalde, Texas.

WILL SELL 35 acres oil lease in Sec. 14, Claremont, Twnshp., Richland County, Ill. Chosen drilling site. G. Hedelin, Grand Rapids, Mich.

Investment Wanted

MANUFACTURER or Sales organization to distribute exclusively, a new, radically different, drill bit proved 25% to 65% more efficient than the fish tail, in all formations and depths. Liberal terms. Kless, 414 Stratford St., Houston, Texas.

Financing

JOHN MORRIS, Box 5411, Philadelphia, studied records 5000 financial houses. Found only 191 buy new issues. $4.00.

Survey Service

REMEMBER EAST TEXAS
When all other methods fail, employ my divining or dowsing method. If oil exists this method finds it. Faults, broken treacherous areas accurately defined. Our Watson #2, first producer Wilmington, Calif. field, located by this method. More reliable than mechanical geophysics. Ask any unbiased oil authority. Many years' experience. A wise man investigates. George Miller, 1548 Post, Torrance, California.

Royalties

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma

Brokers—Salesmen

Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

PURCHASERS AND DISTRIBUTORS
PRODUCING ROYALTIES
Registered with S. E. C.
INVESTMENT ROYALTIES, LTD.
Ramsey Tower, Oklahoma City, Okla.

WE ARE IN THE MARKET FOR
DISTRESSED OIL PAYMENTS
WILDCAT OR PRODUCING
OIL ROYALTIES
Send Plat and Full Particulars
Immediate Action.
F. A. SANSOME, 522 5th Ave., New York.

Incorporations

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

CAPITAL SEEKERS
Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan.

CORPORATE ORGANIZING and Financing Reorganizations — Transfer Service. Brown Hartwell Company—110 East 42nd St., New York.

Mailing Lists

ROYALTY Owners, Oil Investors, Unit Holders, Stockholders in Oil, Royalty and Mining Companies. Personnel lists of every branch of oil industry. All by states. We buy or swap lists. Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa, Okla.

Legal Blanks

BURKHART'S legal blanks and general forms serving Mid-Cont. oil field since 1908—Okla. Kans. N. Mex. Tex. Ala. Ark. Fla. Ga. Ill. Ind. Ky. La. Mich. Miss. Mo. Neb. N. Dak. Tenn. Wyo. Free catalog, samples on request. Burkhart Ptg. & Sta. Co. 115 S. Cinn. Tulsa, Oklahoma.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Geophysical Service

HOMER L. FITCH, GEOPHYSICIST AND LOCATION ENGINEER
WHY drill dry holes? Our method only locates structures which contain oil or gas. Locations made by us will produce or no pay. Drawer 711, Brownsville, Texas.

For Sale—Maps

R. B. ROBINSON MAPS
Jackson, Miss. 3-Hart Bldg., Across Street from Heidelberg Hotel. Ownership maps All Over Mississippi.

1940 OIL AND GAS FIELD MAP
Texas, Eastern New M. Price $1.00.
Wildcat Map $3.00 Published monthly.
ZINGERY OIL MAP CO., Fort Worth, Tex.

CLASSIFIED ADVERTISING RATES

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgment is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.55*	*$3.30*	*7 Lines*	*$2.45*	*$4.20*	*$5.95*	*$7.70*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*	*8 Lines*	*2.80*	*4.80*	*6.80*	*8.80*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*9 Lines*	*3.15*	*5.40*	*7.65*	*9.90*
6 Lines	*2.10*	*3.60*	*5.10*	*6.60*	*10 Lines*	*3.50*	*6.00*	*8.50*	*11.00*

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	*1 time*	*$5.00*
1 Inch	*13 times*	*4.50 per inch*
1 Inch	*26 times*	*4.00 per inch*
1 Inch	*52 times*	*3.50 per inch*

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

Situations Wanted

YOUNG Refinery Tech. now employed by major oil Co. desires change. Several yrs. experience in management of absorption, polymerization, treating, and stabilization plants. Also lab and pilot plant work. College grad. with post-grad. work in Petrol. Refining. Box K-676, The Oil and Gas Journal, Tulsa, Oklahoma.

EXPERIENCED chemical engineer now employed desires position with progressive firm. B.S. degree in engineering. 12 years practical experience processing, management and refining operations. Qualified refinery engineer and Supt. Can furnish references. Address Box K-672, The Oil and Gas Journal, Tulsa, Okla.

OIL ACCOUNTANT, 17 years' experience drilling, production, refining, taxation, desires new connection with progressive firm. Address Box K-641, The Oil and Gas Journal, Tulsa, Okla.

YOUNG MAN, Graduate Engineer, married, free to travel. Two years' production experience with major Co. and two years in Oilfield construction. Box K-671, The Oil and Gas Journal, Tulsa, Oklahoma.

PETROLEUM Engineer: Young production engineer experienced in Mid-Continent desires position as engineer with reliable company or independent. Now employed but desires change. References. Box 670, The Oil and Gas Journal, Tulsa, Oklahoma.

MECHANICAL engineer, 9 years in mechanical design desires connection of permanent nature. Box K-678, The Oil and Gas Journal, Tulsa, Okla.

YOUNG man executive ability refinery pilot plant experience. B.S. Gas Engineering desires job. West Coast or South America. Address Box K-605, The Oil and Gas Journal, Tulsa, Oklahoma.

DRAFTSMAN—Piping, Pressure Vessels, Oil Refinery and Chemical Plant Layout. Checker and Squad Boss experience. 15 years. Address Box K-681, The Oil and Gas Journal, 415 Lexington Ave., New York.

GRADUATE Engineer 12 years' experience all phase refinery construction, maintenance, design and estimating. Capable supervisor. Now employed by major oil company, but desires change. References. Box K-680, The Oil and Gas Journal, Tulsa, Oklahoma.

Help Wanted

MANUFACTURER'S SALES REPRESENTATIVE, acquainted with drilling operations along Gulf Coast, wanted to sell boiler steam equipment. Must have general knowledge of drilling and previous oil well supply field experience. Address Box K-674. The Oil and Gas Journal, Tulsa, Oklahoma.

For Sale—Equipment

FOR SALE: Star #28 beam steam machine lines and tools complete. Box 592, Emporia, Kansas.

Pressure Vessels—Priced for Immediate Sale

3—4' x 41' 2½" x 4½" thickness, One Piece Hammer Welded Vessels
Tulsa, Oklahoma and Oil City, Pa.

1—6' x 40' x 2½" thickness, Riveted and Welded Vessel

20—4' x 20' x 7/16" thickness, One Piece Fusion Welded Vessels

WIRE PHONE WRITE

SONKEN-GALAMBA SUPPLY COMPANY

W. C. Berry and H. J. Galamba
Riverview at Second, Kansas City, Kansas

Robt. W. Duden
2100 S. Union, Tulsa, Oklahoma

FOR SALE: 7 ft. x 20 ft. Butane welded storage tanks 125# WP, capacity 6000 gallons. I.T.I.O. Co., Bartlesville, Okla.

SELLING out stock pipe connections, valves, tools, 18" pipe-threading machine and motor. A. D. Elliott, Depew, Okla.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St., Cincinnati, Ohio

LONGYEAR Rotocore truck mounted with 45-foot derrick attached, 7¼ x 10 Gardner Denver V-Belt driven powered pump all roller bearings. Complete with slips, blocks, kelly lines and tools ready to drill with or without drill stem. Address Chamber of Commerce, Electra, Tex.

FOR SALE: At Oklahoma City, 1 Muskogee Model "B" skid type well service machine with PA-100 International Motor. I. T. I. O. Company, Bartlesville, Okla.

ALMOST-NEW Power-Equipped Guffey "45" Portable Draw Works. 150 H.P. WOKU Waukesha Engine. Received as trade-in on larger unit. Used on 11 wells. Thoroughly checked, gone over. New guarantee. On display our Okla. City plant. Offered at a big saving! JONES, SHELBURNE & GUFFEY, Inc., Petroleum Bldg., Okla. City, Oklahoma. Phone 2-4153.

FOR SALE—Refinery in Central Kansas. Well established, doing good business as books will show. Entering other business. Box 222, Chase, Kansas.

ONE "GASO" Main Line Oil Pump 4 x 12—Good Condition—Cheap. Write Box 372, Healdton, Oklahoma.

FOR SALE: 8,000 ft. 4" standard pipe plain end, 30-ft. lengths, the pile 15 cents. M. J. Regan, Coffeyville, Kans.

FOR SALE

10,000 Ft. 2½" seamless tubing, used in flowing wells only.

10,000 Ft. 7" O.D. 26# seamless casing, once run.

15,000 Ft. 4½" O.D. seamless drill pipe equipped with both regular and full hole tool joints.

In addition to the above we have 20,000 Ft. screw line pipe in Oklahoma; also drilling rig capable of drilling to 6500 feet, complete stock of line pipe, casing, drilling and pumping equipment.

Wire, Write or Phone for Prices.

Louisiana Iron & Supply Co.
Shreveport, La.

ONE 84-FT. IDECO angle-iron derrick. One Lamtex casing pump. Carl T. Matthews, Hominy, Okla.

916 C.F.M. Ingersoll Rand XRB 14" x 14" x 14" Tandem Duplex Compressor 50# Pressure with 100 HP GE 2200 Volt Motor Oil Switch and Starter Completely Assembled on Structural Steel Frame. Absolutely first-class condition and in operation. $1500.00 FOB Houston. Banks Moreland Company, W-61763, P.O. Box 1764, Houston.

FOR SALE—1,000 barrel capacity oil refinery, located at Neosho Falls, Kans., well equipped. J. H. Wille, Piqua, Kans.

WANTED: Gasoline plant location. Have complete absorption plant, engines and pipe. Address Box K-653, The Oil and Gas Journal, Tulsa, Okla.

FOR SALE: 6 wells, approximately 2000' deep, equipped with a Power, making 300 bbls. per month. Address Sherman-Austin Oil Company, Cottonwood Falls, Kansas.

FOR SALE
Following used lapweld casing:
475'—15½"—70#
1625'—12½"—50#
2350'—10" —40#
2000'— 8¼"—32#
4000'— 5⅝"—17#
All of above casing in good condition
Also have for sale 1—45C Star and 1—49C Star Drilling machines in exceptionally good condition, completely equipped.
NO DEALERS
Bryan Petroleum Corporation
410 Beacon Bldg., Tulsa, Okla.

35,000' 10"—32# P.E. seamless line pipe
45,000' 10"—41# P.E. lapweld line pipe
All beveled for welding
6,000' 10"—short collar 40# casing
6,000' 10"—long collar 40# casing
8,600' 4"—11# 10-thd. suitable to run in 3,000' strings, or use for line pipe

ALL THE ABOVE LISTED PIPE IS STRICTLY #1 AND READY TO GO

CENTURY PIPE & SUPPLY COMPANY
900 N. MAIN ST., FORT WORTH, TEX.
Phone 6-2713

TRACTORS
Caterpillars, crawler type, size "35," $375; size "65" with nigger-head winch $750; Caterpillar RD8 with bulldozer $2000; Allis-Chalmers Model L with bulldozer $1750. Guaranteed, slightly used. O. C. Evans, Mt. Sterling, Ky.

Gulf Coast Markets

(Continued from Page 79)

for industrial use in the East, and is occasioned primarily by the prospects for increased industrial activity in connection with the Government's preparedness program. On the other hand the lighter oils, particularly gas oil, are feeling sharply the sudden loss of export business, resulting from closing of French and Italian outlets.

Quotations of the lighter fuels and burning oils showed no material change at the opening of the week, but the market lacked stability. There has been some piling up in stocks of these products within recent weeks, although no distress material has made its appearance. Among the burning oils, however, kerosene still is not overplentiful.

The general weakness in gasolines was reflected in reports of substantial volumes of material being offered at prices materially below the accepted quotations for corresponding products. It is considered likely, however, that some of this material was deficient in some of its specifications. It was reported that 68-octane material was available at 3¾ cents with 72-octane under 4 cents, but these quotations were not verified. There may be a tendency for the low-octane gasolines to become more steady, however, as it is now possible for gasolines to be leaded up to the desired octane at less than the cost of the clear gasoline of corresponding octane.

Also reflecting the weak gasoline market tank-wagon and retail gasoline prices were cut from 1½ to 2 cents at various places in South Texas, particularly in the Houston area. Regular gasolines generally were cut by major companies 1½ cents June 24 with greater cuts by some small independents. Premium grades were cut on the same date 2 cents by majors. All prices were advanced a half cent July 1 covering the increased federal tax.

Canadian Fields

(Continued from Page 74)

tial producing area. Battleview's No. 1, Section 32-47-5w4, completed in 1937 and located about 20 miles southeast of Vermilion, is a large gasser, with production estimated as high as 76,000,000 cu. ft. a day. Vermilion's No. 1, LSD 1, Section 14-48-6w4, about 12 miles southeast of Vermilion, and completed early this spring, has an estimated open flow of 40,000,000 cu. ft. a day.

Turner Valley Gas Quotas

Effective July 1, the Alberta Conservation Board has authorized new allowables for 102 gas wells in Turner Valley. Under the new order a nominal aggregate flow of 98,917,000 cu. ft. a day is allowed; but in actual practice the severe restrictions imposed will hold this down to between 50,000,000 and 60,000,000 cu. ft. Under the new schedule the largest gasser is Royalite Oil Co.'s No. 17, with 3,278,000 cu. ft. a day; and the smallest Royalite's No. 13, with 64,000 cu. ft. No gas is to be blown into the air, and should there be any surplus over actual market, gasoline-absorption plants are expected to curtail their takings below the allowables.

Absorption plants of the Royalite Oil Co., British-American Oil Co., and Gas & Oil Products will be considerably affected by the new restrictions, which, especially in the summer months, will limit their operations.

Under conservation practice, a crude-oil well is one requiring less than 31,000 cu. ft. of gas to produce a barrel of oil. Where more than 31,000 cu. ft. are required, the well is classified as a gasser.

Ontario Drilling

In south Norwich Township, Oxford County, Ontario, Ontario Development Co.'s No. 1, Lot 13, Concession 7, finished a dry hole at 1,038 ft. after drilling through the Clinton to the Big Red formation.

In the Malahide field, Elgin County, Union Gas Co.'s No. 43, Lot 2, Concession 5, Malahide Township, finished a dry hole around 1,060 ft.

In the Haldimand field Union Gas Co.'s No. 242, Lot 2, Concession 3, Rainham Township, finished good for about 140,000 cu. ft. a day. Union's No. 244, Lot 10, Concession 13, Walpole Township, finished a dry hole at 860 ft.

Walpole Gas Syndicate's No. 1, Lot 9, Concession 10, Dereham Township, finished a dry hole below 1,000 ft.

In Kent County Snell Syndicate's No. 1, Harwich Township, south of Chatham, drilled through the Trenton limestone to the Potsdam sand at 3,789 ft. No gas was met in the Trenton, but there was a small show in the Guelph-Niagara or Salina formation. In Essex County George Willets' No. 4, Knapp Island, Malden Township, finished a dry hole around 1,000 ft.

Index to Advertisers

A

Abercrombie Pump Co.
AC Spark Plug Division of General Motors Corporation
Acme Fishing Tool Co.
Air Reduction Sales Co.
Ajax Iron Works
Alco Products Division of American Locomotive Company
Allis-Chalmers Mfg. Co.
Allison, R. J.
American Blower Corporation
American Bosch Corporation
American Cable Division of American Chain & Cable Co., Inc. Inside Back Cover
American Cast Iron Pipe Company
American Hoist & Derrick Co.
American Iron & Machine Works Back Cover
American Locomotive Company, Diesel Engine Division
American Meter Company 2
American Roller Bearing Co.
American Rolling Mill Co., The
American Steel & Wire Company
Armstrong Bros. Tool Co.
Armstrong Machine Works
Ashcroft Gauge Division 60
Athey Truss Wheel Co.
Atlas Supply Co.
Auer, C. L., and W. W.
Austin-Western Road Machinery
Axelson Manufacturing Company

B

Baash-Ross Tool Company
Babcock & Wilcox Tube Company, The
Badger & Sons Co., E. B.
Baker Oil Tools, Inc. 4
Baldwin-Duckworth Division of Chain Belt Company
Bantam Bearings Corp.
Baroid Sales Company
Barret, William M., Inc.
Bethlehem Supply Company
Bethlehem Steel Co. 1
Braden Steel Corporation
Bradford Motor Works, Inc.
Brance-Krachy Co., Inc.
Brauer Machine & Supply Company 65
Brewster Company, The
Bridgeport Machine Company, The
Bristol Company, The
Broderick & Bascom Rope Co.
Brown Instrument Company, The
Bruning, Charles, Co., Inc.
Buckeye Traction Ditcher Co.
Burgess Battery Co.
Butler Manufacturing Co.
Byron Jackson Co.

C

Cable, Jo H.
Cameron Iron Works, Inc.
Cardwell Mfg. Co., Inc.
Carey Company, The Philip
Carnegie-Illinois Steel Corporation
Cast Iron Pipe Research Association, The
Caterpillar Tractor Co.
Cavins Company
Century Electric Company
Cessna Aircraft Company 46
Chain Belt Company
Chaplin-Fulton Mfg. Co., The
Chapman Valve Mfg. Co., The
Chemical Process Co., Inc., The
Chevrolet Motor Division, General Motors Sales Corporation
Chicago Bridge & Iron Company
Chiksan Tool Co.
Clark Brothers Company
Classified Advertising 86-87
Cleveland Trencher Company
Climax Molybdenum Company
Columbia Steel Company
Columbian Steel Tank Co.
Continental National Bank of Fort Worth
Continental Oil Co.
Continental Motors Corp.
Continental Supply Company, The 20
Cooper, Fred E.
Cooper-Bessemer Corp., The
Core Laboratories, Inc.
Crane Co.
Curtin, W. H., & Co., The

D

Darling Valve & Mfg. Co.
Davis Regulator Co.
Dayton Rubber Mfg. Co., The
Dearborn Chemical Co.
Diamond Chain & Mfg. Co.
Diesel Power & Machinery Co.
Dodge Division, Chrysler Corporation
Donovan Boiler Works
Dowell Incorporated
Dragon Mfg. Co., The 57
Dresser Mfg. Co., The 37
Drilling Equipment Directory 24-65
Duff-Norton Manufacturing Co., The
Du Pont de Nemours & Co., Inc.

E

Eagle-Picher Lead Co.
Eastman Oil Well Survey Co.
Economy Electric Lantern Co.
Elastic Stop Nut Corp.
Emsco Asbestos Company
Emsco Derrick & Equipment Company
Enardo Foundry & Mfg. Co.
Ensign Carburetor Company, Ltd.
Ethyl Gasoline Corporation

F

Filtrol Corp.
First National Bank of Fort Worth
First National Bank in Houston
First National Bank & Trust Co. of Tulsa, The
Fisher Governor Company
Fluid Packed Pump Co.
Fluor Corporation, Ltd., The
Ford Motor Co.
Fort Worth Chamber of Commerce
Fort Worth Clearing House Association
Fort Worth National Bank, The
Foster Wheeler Corp.
Four Wheel Drive Auto Company
Foxboro Co., The
Franks Machine Co.
Frick-Reid Supply Corporation

G

Gardner-Denver Company
Garlock Packing Company, The
Gaso Pump & Burner Mfg. Co.
Gasoline Products Co., The
Gates Rubber Co., The
Gatke Corporation
General American Transportation Corporation—Terminal Division
General Electric Company 61
General Paint Corporation
General Power, Inc.
Geological Scientific Service Company, Inc. 28
Geophysical Service, Inc.
Gilmer Company, L. H.
Girdler Corporation, The
Goodall Rubber Co.
Goodyear Tire & Rubber Co.
Gott, H. P., Mfg. Co.
Graver Tank & Mfg. Co., Inc.
Gray Processes Corporation, The
Great Lakes Steel Corporation
Green Head Bit & Supply Co.
Greenspon's Son Corp., Jos.
Guiberson Corporation
Gulf Oil Corp.
Gulf States Utilities Co.

H

Halliburton Oil Well Cementing Co.
Hanlon-Buchanan, Inc.
Harnischfeger Corporation
Harrisburg Steel Corporation
Hazard Wire Rope Division of American Chain & Cable Co., Inc.
Hewitt Rubber Corp.
Hill-Hubbell & Co.
Hoard Exploration Co. 64
Houston Engineers, Inc. 65
Houston Pipe Appliance Co.
Houston Pipe Line Co.
Hughes Tool Co. Front Cover
Humble Oil & Refining Co.
Hydril Co.

I

Independent Exploration Company
Inferno Co., The 53
Ingersoll-Rand Co.
International Geophysics, Inc.
International Harvester Co.
International Nickel Company, Inc., The

J

Jadson Motor Products Company 62
Jarecki Manufacturing Company
Jeffrey Manufacturing Company
Jensen Brothers Manufacturing Co.
Jerguson Gage & Valve Co.
Johns-Manville Corporation
Jones Company, The S. M.
Jones & Laughlin Steel Corporation Inside Front Cover

K

Kellogg, M. W., Company, The
Kennedy Valve Mfg. Co., The
Kerotest Manufacturing Company
Keuffel & Esser Co.
Key Company
Kobe Incorporated

L

Laminated Shim Company, Inc. 64
Landis Machine Company, Inc.
Lane-Wells Co., The
LaPlant-Choate Manufacturing Co., Inc.
Larkin Packer Company, Inc.
Layne and Bowler Co., The
Layne & Bowler, Inc.
Leeds & Northrup Co.
Le Roi Company
Lennox Hotel
Leschen, A., Sons Rope Co.
Lincoln Electric Company, The
Line Scale Co., Inc.
Link-Belt Company
Lockheed Aircraft Corporation
Lone Star Cement Corporation
Lucey Export Corporation
Ludlow Valve Mfg. Co., The
Lufkin Foundry & Machine Co.
Lufkin Rule Co.
Lummus Co., The
Lunkenheimer Co., The

Mc

McEvoy Company
McGregor Working Barrel Company 74
McKissick Products Corp.

M

MacClatchie Manufacturing Company
Macwhyte Co.
Magnolia Airco Gas Products Co.
Maloney Tank Mfg. Co.
Manhattan Rubber Mfg. Division
Manning, Maxwell and Moore, Inc. 60
Marley Company, The
Marmon-Herrington Co., Inc.
Marsh, James P., Corp.
Martin, John N., Mfgr.
Martin-Decker Corp.
Mayfair Hotel 62
Medart Company
Meehanite Research Institute
Merco Centrifugal Co.
Merco Nordstrom Valve Co.
Mercoid Corporation
Metric Metal Works 2
Mid-Continent Engineering Co., Inc.
Mid-Continent Supply Company
Midwest Piping & Supply Company, Inc., The
Miller Sand Pump Co.
Minneapolis-Moline Power Implement Company
Mission Mfg. Co., The 50
Monsanto Chemical Company
Morse Chain Company
Murray Rubber Company

N

National Bank of Tulsa
National Carbon Co., Inc.
National Steel Corporation
National Supply Co., The
National Transit Pump & Machine Co. 38
National Tube Co.
Naylor Pipe Company
Nelson, J. B.
New Bedford Cordage Co. 64
New Deal Specialty Co., The
Newman, Hender & Co., Ltd.
Non-Corrosive Products Company
Norton Company
Novo Engine Co.
Nugent, Wm., & Co., Inc.

O

O.C.S. Mfg. Co., The
Ohio Injector Co., The
Oil Center Tool Co.
Oil Well Supply Company
Oliver United Filters, Inc.
Osage Metal Company 65
Otis Pressure Control, Inc.

P

Page Fence Association
Page Steel & Wire Division of American Chain & Cable Co.
Parkersburg Rig & Reel Co.
Parkhill-Wade
Patterson-Ballagh Corporation 61
Pease, C. F., Company, The
Peerless Pump Division of Food Machinery Corp.
Penberthy Injector Co.
Pennsylvania Grade Crude Oil Association
Perco, Inc.
Perfex Corporation
Petroleum Advisers, Inc.
Petroleum Electric Power Association
Petroleum Rectifying Company
Phelps Dodge Refining Corporation
Pittsburgh-Des Moines Steel Company
Pittsburgh Equitable Meter Co.
Pittsburgh Steel Company
Plymouth Cordage Co.
Powell, Wm., Co., The
Price Co., H. C.
Pritchard, J. F., & Co.
Pure Oil Co.

R

Reading-Pratt & Cady Division of American Chain & Cable Co.
Rector Well Equipment Co., Inc. 64
Reda Pump Co.
Reed Roller Bit Company
Regan Forge & Engineering Co.
Reilly Tar & Chemical Corporation
Republic Rubber Division of Lee Rubber & Tire Corp.
Republic Steel Corporation
Rockford Drilling Machine Division of Borg-Warner Company
Roebling's Sons Company, John A.
Ryerson & Son, Inc., Joseph T. 19

S

Schlumberger Well Surveying Corporation
Security Engineering Co.
Seismic Explorations, Inc.
Seismograph Service Corp.
Shafer Bearing Corporation
Shand & Jurs Co.
Shell Oil Company, Incorporated
Sinclair Refining Company (Inc.)
Skinner Co., M. B.
Smith, A. O., Corporation
Smith Company, E. M.
Smith Company, Howard
Smith, H. C., Tool Co. 64
Smooth-On Mfg. Co., Inc.
Socony-Vacuum Oil Co., Inc.
South Chester Tube Co.
Southwestern Gas & Electric Company
Spang Chalfant, Inc.
Spang & Company
Sperry-Sun Well Surveying Co.
Spicer Mfg. Corp.
Standico Brake Lining Co. 64
Stanley Belting Corporation
Star Drilling Machine Co., The
Stearns-Roger Manufacturing Co.
Steel Founders' Society

T

Taylor Forge & Pipe Works
Taylor Instrument Companies
Technical Oil Tool Corporation, Ltd.
Texaco Development Corporation 43
Thermoid Company
Thornhill-Craver Co., Inc.
Timken-Detroit Axle Co.
Timken Roller Bearing Company
Timken Roller Bearing Company, Steel and Tube Division
Tobin, Edgar, Aerial Surveys
Toledo Pipe Threading Machine Co., The 60
Trackson Company
Tretolite Company
Trinity Portland Cement Company
Tubbs Cordage Co. 65
Tube-Turns, Inc. 17
Tulsa Boiler & Machinery Co.
Tulsa Chamber of Commerce
Twin Disc Clutch Co.

U

Union Wire Rope Corporation
Unit Rig & Equipment Company
United Geophysical Co.
United States Rubber Company
United States Steel Corp., Subsidiaries
United States Steel Export Company
Universal Atlas Cement Co.
Universal Exploration Co.
Universal Oil Products Co. 23

V

Vickers, Inc.
Victor Products Corp.
Viking Pump Co.
Visco Products Company
Vogt, Henry, Machine Co.

W

Wall-Colmonoy Corp.
Wall Rope Works, Inc.
Walworth Co.
Warren Petroleum Corporation
Watson-Stillman Co., The
Waukesha Motor Co.
Wedge Protectors, Inc.
Well Equipment Manufacturing Corp.
Well Surveys, Inc.
Western Geophysical Company
Westinghouse Electric & Mfg. Co.
Wheeling Machine Products Company
Whitney Chain & Mfg. Co., The
Wickwire Spencer Steel Company
Wilson Manufacturing Co., Inc.
Wisconsin Motor Corporation
Witte Engine Works 57
W-K-M Company, Inc.
Worthington Pump & Machinery Corporation
Wyatt Metal & Boiler Works

Y

Young Engine Corp.
Youngstown Sheet & Tube Co.

(The Oil Man's Calendar appears on Page 25)